

The Washington Press

THE ALAMEDA COUNTY PRESS



FARM SECTION

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FARM SECTION

IRRIGATION SCENE IN SANTA CLARA COUNTY



Irrigation, one of the most important of orchard practices, is never an uninteresting subject to the fruitgrower. Our illustration shows a very efficient plant in operation, consisting of a No. 4 Jackson pump in a 70-foot pit, discharging from an 8-inch pipe approximately 800 gallons per minute. It is driven by a 35-horsepower General Electric motor.

PLANT GERMAN IRIS.

Any Time Now Plant Plentifully and Get Rewarded Next Spring and Summer.

By Philip Henderson.

WITH just ordinary care the German iris in its multiple varieties will flourish as the green bay tree and with intelligent planting will produce garden effects not known or attainable by any other flower.

Not Well-Known—When we speak of German iris in mixed company most of those present assume a noncommittal expression, while a few are honest enough to say that they are unacquainted with it. *Fleur de Lis* brings to the surface a better expression and interest and some one says, "Oh yes, blue flags," and there is a white variety also," then the expressions are more cheerful.

However, the beauties of the German iris and its possibilities are becoming known rapidly, for it is par excellence the most satisfactory garden flower for everybody.

And why should it not be popular? It has a wide range of color and form which of late has been broken up into such a great variety that everybody in a neighborhood may have many varieties and no two have those of the same name.

For City Dwellers—In small gardens too many varieties are not advisable for various reasons, and whatever may be the number desired, if possible, visits to iris gardens in blooming seasons is most strongly to be recommended, for there the opportunity is offered to study color, habit and adaptability to certain situations.

Masses of the lighter shades in partial shade or gloomy corners, leaving more open situations for the shades that would be lost against the darker foliage of plants or shrubs in the background, is the proper method of planting.

Planting in masses does not mean necessarily that the masses must occupy large spaces but the planting may be massed in conformity with the space available.

At Home Everywhere—California is adapted to a great development of German iris because of her great variety of climates, and although most varieties will adapt themselves to cold and wet or hot and dry situations, some varieties will of course develop wonderful growth and florescence when congenial conditions surround them. So there is plenty of room for one to study and experiment, and while doing so have a most delightful entertainment with these beautiful flowers, and there is no reason why one cannot finally arrange to have iris blossoms every day in the year in favorable localities.

In Sickness and Health—While the enjoyment of the beauties of nature may be perhaps at its height, when there is no physical ailment to intervene, the presence of flowers in the sickroom have a mission that in extent is hard to comprehend. Flowers and cheerfulness, if not better than medicine, will at least join hands with it in winning the sick back to health.

For this reason if for no other we should carry flowers to those who are sick and still alive to enjoy them

rather than to wait to place them on their bier.

For the sickroom the iris is peculiarly adapted. Their lasting qualities and the development of the buds, together with the delicate perfume of some varieties, are well-known.

So plant iris; plant a lot of them and do it now while they are in a semi-dormant state. During the cool rainy winter weather the roots will sink deep into the ground and draw up strength for the development of the finest kind of blossoms in the spring.

This deep-rooting condition will help next summer to keep them flowering for a long time.

NEW COLORED FREESIA.

Claimed to Be Very Floriferous and of Various Colors—In Catalog of Weeber and Don, New York.

A new race of Freesias, very free-flowering and containing different beautiful shades of color entirely new in this pretty bulbous plant. The



NEW COLORED FREESIAS.

flowers are freely produced, from 7 to 9 on each spike, of which every bulb produces several. Can be forced the same as the white variety, but does not want a high temperature.

Freesias are very popular and greatly prized for the delightful fragrance of their delicately colored flowers, which are splendid for cutting. They last a long time in water.

SPANISH IRIS.

I AM THINKING of growing Spanish iris outside for cut-flowers, and as

I know nothing of their culture, would like to have you tell me what kind of soil to use, how close and how deep to plant and how to fertilize them. How long should they stay in the same place before separating and planting the new bulbs, and how shall I get the new bulbs? My location is in the state of West Virginia. W. A. L.

A Hardy Bulb—Spanish iris is popularly, but quite erroneously, supposed to be tender. As a matter of fact, they are among the hardiest and most easily cultivated bulbs we have. A temperature of 25 to 30 degrees below zero has not harmed them in the least. The bulbs usually arrive about the end of September. It is better, however, not to plant them out at once, and in your latitude November 1 will be sufficiently early. If planted as soon as received the bulbs make a great deal of growth before cold weather, and while it is true that severe frost does not seem to harm these growths, I consider it an advantage to delay planting for a few weeks after the bulbs arrive. Spread the bulbs out thinly meantime, and keep in a cool, dry shed or cellar.

Any Soil Suitable—Spanish iris will grow in almost any soil and is not particular as to location so long as water does not lie on the ground in winter. This would cause the bulbs to rot. A somewhat light, friable loam is particularly good, however, and if somewhat sandy, all the better. Do not use any fresh manure for these, or, for that matter, any other bulbs. Let it be well rotted and incorporated. Plant the bulbs four inches deep; if in nursery rows they can go four inches apart, making the rows 18 inches apart. A good way is to plant in beds three feet wide, running five rows to a bed and leaving a 24-inch path between the beds.

Established Indefinitely—You ask how long bulbs can stay in one place. With suitable soil and by not cutting the stems down close to the ground, I have had beds flower well for eight or

ten years. If you cut all the plants down close, you cannot, of course, expect much of a crop the year following. However, Spanish iris is inexpensive and you can afford to plant a new bed annually. The following are splendid varieties of Spanish iris for either open-air culture or for forcing under glass. It is far better to buy named varieties than cheap mixtures: *Campanes*, bright and yellow; *Bronze Queen*, bronze brown and yellow; *Louise*, porcelain blue and yellow, fine; *British Queen*, pure white; *Midley*, fine pale blue; *Unique*, dark blue; *Unique*, dark blue standards, pale blue falls.—C. W. in *Florist's Review*.

FREESIAS.

One of the Most Sweetly Scented Flowers Grown.

By Chas. C. Navlet.

THEY are becoming as popular as violets, being without a doubt the most sweetly-scented flower grown. The bulbs are inexpensive, a single bloom permeates the living-room with its delicate perfume. They are among the first winter blooming flowers, are easily grown, require little care and grow in most any garden soil if you add some rotten sawdust or leaf mold, mixed thoroughly with a little rotten manure. This mixture is what Freesias grow and bloom best in. If you plant your Freesias in the garden they bloom earlier on the south side of the house or in a protected place if they are planted exposed to the frost the flowers will not get as large and the stems will be quite short. Purity Freesias are pure white and are one of the largest blooming varieties and if planted on the south side of the house the flowers will be immense in size on wiry stems about 12 inches long. The old variety of Freesias are known as the California Freesias. This variety is of a creamy white yellow throat. The flowers are very much smaller than the Purity and the stems are much shorter. There is a dark pink Freesia but this variety is not used extensively, the flowers are small and the stems very short. Freesia bulbs can be planted as close as one inch apart each way, should be covered not more than a half-inch. After planting give them a good watering then only keep the soil damp until grown about two inches above the soil this is to allow the bulbs to get a good root action, then water freely. If watered heavily every day after planting the bulbs will make a top growth and the flowers will be of a poor quality. Frost does not injure Freesia bulbs. After you have set out Freesia bulbs in the garden they can remain in the same place three years without disturbing them then divide the bulbs and bulbets as they are wonderful multipliers. For every one bulb you plant after three years you will get about 15 bulbs and bulbets. Freesias are more beautiful when planted as a border or among border plants and in masses in the garden. After the Freesias get in bud they should be supported with light stakes around the outer edge. The stems are so wiry if they are not supported the stems will grow irregular and will spoil them as a cut-flower for vases.

SUCCESS WITH FREESIAS.

Cultural Directions From Dreer's Hints On Growing Bulbs.

THIS is one of the most beautiful and useful bulbs from the Cape of Good Hope, possessing a peculiar grace of form, and its fragrance is most delightful, one pot containing a dozen bulbs being sufficient to perfume a whole house. As cut-flowers they are extremely valuable. The unexpanded blooms opening in water fill the air with the most delicate perfume, and their endurance is really remarkable.

There are a number of varieties, of which Purity is probably the best for all purposes, although the New Hybrid varieties which come in a variety of colors are particularly interesting. While their culture is really very simple, many amateurs do not seem to succeed with them, and we hope that the following cultural hints will enable anyone to grow them successfully.

The bulbs may be potted at intervals from August till October or even later, which will insure a succession of flowers from January until June. Any light, rich soil will suit, preferably a compost of loam with a little leaf mold, sand and well-rotted cow manure or bone meal. A six-inch pot or pan will hold a dozen bulbs. These should be placed at equal distances in the pot or pan and covered with not less than an inch of soil. After planting give a good watering and place out of doors, or in a cold frame, in either case plunging the pots to the rims in ashes. The root and top growth start simultaneously, and when the tops are an inch

high they should be taken into the place where they are to bloom. They can be flowered just as well in a sunny window as in a greenhouse. They like plenty of air and failures frequently occur from lack of water, of which they should have an abundance while in growth. It must also be noted that Freesias dislike a very high temperature. From 55 to 65 degrees is warm enough. After flowering water should be gradually withheld, and when the foliage becomes yellow the pots should be set out in the sun to ripen up the bulbs. In a week or more the bulbs can be taken out and kept in a dry place for replanting the following autumn.

Spring Flowering Bulbs—There is nothing so charming in the early spring as the bright blossoms of some of the bulbous plants.

A good way to plant your crocus or snowdrop bulbs is to take a handful, throw them on the grass and where they fall plant them deep in the ground.

Narcissus, daffodils and jonquils are early bloomers. How we enjoy a bed of tulips in the spring; these bulbs may be taken up when done blooming and the bed used for annuals if desired.

The perennial phlox is easily grown; has a profusion of bloom and a great variety of flowers.



PURITY FREESIAS.

The color arrangement is quite noticeable in the perennials as with the annuals. Plant large masses of white, this will bring out and add to the beauty of the other colors. Keep the lilac and violet varieties away from the pink, red and crimson.

Another good perennial is the hollyhock; this also has a variety of colors. Groups of pink, white and pale yellow make a good effect.

The larkspur with its blue flower and the golden glow make a good background for plants of lower growth.

The peony is a fine perennial. No other flower can equal it in beauty of color, form and bloom.

For the permanent flower beds, plant the taller varieties behind, grading down to alyssum, candytuft or other dwarf varieties in front.

You may ask "Does it pay?" Perhaps not in dollars and cents, but in pleasure, health and contentment it does.

"Do you know, my dear," asked the young husband, "There's something wrong with the cake? It doesn't taste right."

"That is all your imagination," answered the bride, triumphantly, "for it says in the cookbook that it is delicious."

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The Editor of the Farmer invites correspondence from any reader upon any subject that may interest country people, or have a bearing upon improvement of conditions in rural life. All departments of this paper are open for the approval or disapproval of its readers and a free expression of opinion is invited.

Address all Communications to
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FALL IRRIGATION.

A Practice That Does Not Warrant a Continuance in Deciduous Fruit Culture.

SOME fruitgrowers are very positive in their assertions that fruit trees should be irrigated in the fall. Just why putting water in the ground when the roots are dormant, and two or three months before they naturally begin to wake up and prepare for the coming year's growth, has never been satisfactorily explained to the satisfaction of other fruitgrowers who are just as positive that little if any benefit may be derived from moisture in the ground, whether put there by artificial irrigation or by natural rainfall—until the roots are ready and other conditions are right for them to make use of it.

Early Irrigation Dangerous—The unfortunate experiences of some advocates of fall irrigation last year are still fresh in the minds of fruitgrowers of Santa Clara county.

On account of the exceptionally dry condition of the soil caused by two years of short rainfall some growers were persuaded that fall irrigation would be beneficial to their suffering trees and they acted accordingly, with the result that many trees were forced into bloom and new growth.

That no particular harm could come to dormant trees for a few months even if their roots were in dry soil, does not seem to enter into the consideration of the advocates of fall irrigation for deciduous fruit trees.

This principle of plant life is freely illustrated in California every year "on mountain, hill and valley," and particularly emphasized in dry years, when the natural growths of trees, shrub and flowers are dormant for months and months with their roots in dry earth, where they remain until the cool winter rains prepare the way for a new growth made possible by the increasing warmth of spring.

Even severe early pruning in September, 1913, without irrigation had the effect to force some growth on apricot and peach trees. This growth was made possible, not by moisture, but evidently by the moisture in the body of the tree itself, which was sufficient to force a little growth after the removal of a part of the branches. This growth was also aided by continued warm weather at the time.

Such an effort on the part of a tree to produce growth at such a time must have been detrimental to its health in some degree for it could not possibly have properly matured any of the new growth or buds. However, that was an exceptional year and such conditions as were present then may never occur again for early pruning of cherries, apricots, peaches and prunes as soon as the fruit is off does not usually show any bad effects, but rather a benefit in that the work is all done before any of the trees' vigor is expended in preparing for new growth in the winter.

Irrigation for Cow Crops—In order to get the soil in condition for seeding with vetch or other cow crops that does not grow readily in cold weather, it is usually necessary to use some water, at least enough to give the

seed a start and keep it growing until the winter rains come on.

As the amount of water used for this purpose need not be enough to moisten the tree roots to any extent, there can be no possible danger to the orchard by such practice.

As irrigation is always more or less expensive many fruitgrowers in central and northern California are not favorable to vetches, as they cannot be started early enough in the fall without irrigation and do not grow well in the winter.

Because of these facts it puts the time of its mature growth off too long in the spring, particularly if the orchard consist of early varieties of fruits.

On the other hand it is next to impossible to start burr clover seeds in the fall even with heavy irrigation for they do not start readily without continued moist weather which will prevent them from drying out.

A Time for Rest—All plant life has periods of rest and these times when no growth is apparent are just as important to the plant life as rest and sleep is to animal life and anything that we do to disturb this rest must necessarily work for harm at some future time.

This principle is particularly well understood by florists who in their work of producing flowers out of season know that if this rest is not provided that their work will not be successful.

"Drying off" plants and bulbs is done at an unusual loss of vitality and they are often thrown away after blooming because of the extra time and care required to enable them to recuperate and be ready to bloom again.

The giant live oak trees scattered over California, that live to be a thousand years old, have their resting and growing periods and do not bear acorns every year either.

As it will appear that to be successful in growing fruit trees which must, to be profitable, produce good crops of fruit yearly that they must not only be provided with favorable conditions in the way of moisture and plant food during their growing season, but must also have the proper amount of rest each year after their work is done.

Fall Irrigation Not Extensive—In the light of the above reasons the practice of fall irrigation should never be very general or heavy, at least so far as deciduous fruitgrowing is concerned, for the fall and early winter season is the proper time for the trees to get absolute rest so that when the rains or artificial winter irrigation penetrates to the roots they will, like other plant life, naturally begin their preparation for the coming fruit bearing season, under ground. With conditions right for a vigorous root development, that part of the trees above ground will have a strong support at the proper time to produce vigorous blossoms that will be strong in fertility and thus help to retain enough for an abundant crop.

Power Plowing in California—Referring to an article by H. A. Crafts under the above title in a recent number of the Farmer, the Holt Manufacturing company of Stockton calls our attention to a very evident slip of Mr. Crafts where he writes of "specially wide-wheeled tractors for plowing the soft peat lands" "with wheels eight feet in diameter and 13 foot-faces," and claiming that tractors of the described type have long ago been replaced by those of the Catapillar type which because of their much greater traction surface as compared with weight of machine are the only practical tractors for plowing soft peat lands.

It is really hardly necessary to make this explanation in view of the fact that tractor demonstrations in California have settled all such points very conclusively.

California Cotton Unsurpassed—With an acreage in 1914 more than double that of 1913 and designated as perfect by the June government report California may well feel proud of this new industry.

Farther than this California cotton is early and stays late giving the grower a long season in which to harvest his crop, a very important item in any large farm enterprise where help must be hired to do most of the work. With its long season, heavy production per acre, and excellent quality the cottongrower of California seems to be in a fair way to be the owner of a permanent and profitable business.

CALIFORNIA STATE FAIR.

An Event Well Worth One's While to Attend Every Year, Whatever His Business May Be.

AS usual the state fair which closed Saturday night, September 19th, was a great educational opportunity for all Californians.

He must have been indeed dull of perception who could have spent a day within the gates of such an exhibition without gaining information of great value to himself in a purely educational way or that would enable him to make his business, whatever it might be, more profitable.

"Don't Knock, Boost"—We all need encouragement at times in order to do our best in our particular line of work and the man who gains his income from the soil in any of the many departments of agriculture is no exception.

Pessimists are a nuisance in this world, anyway, both to themselves and to all about them, and we know of no better place to perform an operation on a farmer pessimist that will modify his nature somewhat or make of him an optimist than a big educational fair.

For no matter how disappointing his crops may have been or the results of his efforts to wring a living from Mother Earth, the agricultural fair will demonstrate to him most effectually that his methods have not been correct or he would have succeeded, just as many who had their products on exhibition had done.

The Stock Parade—Any farmer who could have watched that procession of farm animals pass by without having a feeling awakened in him that he would enjoy just such company on his home acres must have been of a peculiar temperament. The high quality of the horses and cattle there shown could not have been denied by anyone at all familiar with farm animals and after consideration of the fact that there are many others of the same breeds on farms scattered all over our state and that eventually all of the future generations of animals will be better in quality and efficiency because of those strings of thoroughbreds, one could only wonder at the transformation that is surely in process of becoming a reality.

Aside from the animals on parade each day, there were others, the sheep and goats, pigs and chickens, that perhaps are playing quite as important a part in the economies of our farm life and which have been bred to just as high a standard and will raise the standard of the great multitudes of their kind on our farms as the years go by.

Other Products—While the exhibit of fruits, cereals and garden products was hardly up to standard there was enough in quality and quality to prove again the wonderful possibilities of our climates and soils.

The new industries, rice and cotton, were there, representing an acreage more than double that of last year, and with the added feeling of permanency now that they had been proven to be, each a commercial success.

Fruits, canned, fresh and dried, were there to amaze by their size and luscious quality every visitor whose business is not fruitgrowing, and even the oldtimers were not blind to the possibilities of some new fruits that are appearing in larger display from year to year.

New cereals, as Sudan grass feterila, etc., were shown by a number of farmers who are trying them out in their various localities.

Farm machinery of all kinds made a high-class exhibit, particularly the tractors of various makes.

Save the Hay—There are large quantities of hay still exposed to the weather at this writing—September 21—all of which should be saved against the short season that will surely come by and by. Selling hay at the small prices now obtainable is a losing game and should be avoided if possible.

The man who would attempt to run a greenhouse business and be on duty only eight hours or disobey the law if by reason of a change in the weather, he should turn on more heat, or give more ventilation, would soon be out of that business, at least.

DAIRYING IN CALIFORNIA.

Clean Dairying Is Possible and Profitable and Also Healthful.

PROBABLY no place on earth has such abundant opportunities for successful dairying as California.

Climates in which animal life is comparatively free from diseases are of course preferable to those where sickness may enter the herd readily, and even when any of the diseases of cattle are discovered their cure is less difficult when as here climatic conditions are favorable.

Housing the Cows—One feature of dairying in California that appeals strongly to those who have conducted dairies in cold climates, is the getting away from the necessity of long periods when the cows must be confined in barns. There are dairymen who claim that they can make a greater profit by keeping the cows in the barns practically all of the time and while this may be true in exceptional cases and under the eye of one who lets no detail which makes for cow-comfort and health, escape him, it cannot possibly prove feasible with the great majority of dairymen.

The beneficial effects of pure air and sunshine upon the health of all animals and plant life, would necessarily mean that any system which made the presence of the latter impossible and the supply of the former doubtful, should not be thought of in California.

However, in this climate housing except as a protection from the heaviest rains—a matter easily accomplished by open sheds—is not to be considered as either practical or desirable, and this fact alone obviously enables our very efficient state dairy bureau to handle the problem of clean milk in a most effective manner.

Dairy Inspection—Without our system of dairy inspection we would still find that impure milk would menace the health of our people, as laxity in cleanliness in our mild climate means a rapid multiplication of those forms of bacteria which quickly change pure milk from a nutritious health-giving food into a substance deleterious to health.

Dust flying in the air from the movement of dry feed, dirt from the udders and bodies of the cows, and flies, naturally contaminate the milk in the dairy of the careless dairyman. While on the other hand by proper preparation and care all of these things may not only be avoided, but the whole work of caring for the dairy herd be as economically done as formerly.

Our dairy inspectors are not police officers solely, for the greater part of their work is educational and beneficial in every way to the dairy owners, who must necessarily take some pride in a sanitary system of work which improves the health of their cows, replaces dirty sheds and milkhouses for clean ones, and makes more money for him besides.

A Dairy Millenium—It would seem very probable that if the present plan of dairy inspection is continued that it will only be a matter of a few years perhaps when sickness among dairy cows and impure milk will be practically unknown in this state and dairy products will be as pure and health-giving as the fresh fruit juices from our orchards and vineyards or the distilled water from a watermelon.

Spineless Cactus for Profit—The merits and demerits of spineless cactus as a food product are yet in the making and in the meantime let no one who has fertile lands that will grow good crops of alfalfa or corn discard those crops for this new one. Spineless cactus will grow and produce forage and fruits on land that is not profitable for either fruit or cereals. It would seem wise for those farmers who have such waste lands to test spineless cactus thereon before devoting lands to the experiment that will produce other crops.

How to Grow Bulbs—Henry A. Dreer, of Philadelphia, has just issued a book for amateurs giving cultural directions as to the care of 123 varieties of bulbs. The book contains 64 pages and is full of information regarding this most delightful class of flowers, including notes by that well-known horticultural writer, Miss Ida D. Bennett. Fifty cents is a small price to pay for so much practical help as this book contains.

GOOD RESULTS IN MADERA.

The First Experiences of County Adviser Thomas C. Mayhew Are Encouraging.

TAKE pleasure in sending you some information on the workings and success of the farm bureau and adviser in Madera county.

This is an old grain-producing country just being subdivided in small farms. As a rule the older generation of farmers who own large tracts are against the movement. Whether they will come in or not in the future is a question.

The greatest amount of good is be-



THOS. C. MAYHEW

ing done to the settlers north and west of the city of Madera. There are no doubt 400 farmers in those districts, and very few have been there longer than two years.

New Farmers Helped—They are new to the soil conditions and some of them are making their first attempt at farming. The soil has spots of black alkali which in some instances spoils the profits on five acres. This can be successfully reclaimed, and they are now purchasing gypsum to apply to these

spots. Since they practically all need it they are buying it through the farm bureau in carload lots.

They want to know the best crops to plant, the best rotation of crops in connection with livestock to insure permanent agriculture, the care, management and needs of livestock, and to know that this information comes from a reliable and unprejudiced source. During the four weeks I have been here I have visited over 40 men on their ranches and have talked over these problems with them. I find that in a few cases the entire irrigation system must be changed, in others I have prevented the wrong kind from going in. I might mention more cases to prove that the farm adviser is earning his salt and aiding those who ask his help. Those who do not are getting nothing out of it.

Organization the Real Work—However the real work of the adviser is aside from the actual advice he gives in the field to individual farmers. The important work is organization. He works in connection with the farm bureau, which is an organization of farmers formed for that purpose. And the benefits to be derived by the farmer from this is unlimited. The farm bureau has reached its highest efficiency in the Chowchilla district. They are building up their ranches there, and they all need the same things. By dealing with the Standard Oil company as the farm bureau they now get distillate delivered to their engines at six and one-half cents per gallon where formerly they paid nine and hauled it. No individual collections are made. The oil company sends its bills to the secretary of the farm bureau and he distributes them at their meeting. The checks are made out and handed to the secretary, who sends them to the company. The farm bureau recently borrowed money and bought a carload of hogs to consume their feed. They are now getting bids on material for silos. They can get a cutter and blower which will accommodate 20 farmers for about \$10 each and get a year's time on it. They are also buying a pair of community scales and a carload of coal. A pure-bred cattle association has been launched called the Chowchilla Co-operative Cattle association. They will select a breed of dairy cattle and breed it as a community with the idea that they can buy sires together, and advertise and market their products and young stock co-operatively to much greater advantage than where they work isolated and alone. The whole scheme is wonderful in the admirable way in which it works out. It is practical beyond question, and these men have already gotten out a hundred fold more than the county farm adviser cost them. The same thing is working out in my other farm centers, only it is not to such an advanced stage yet.

The work is barely started as yet, but to one acquainted with the nature of it, there should be no question of its worth. Most people who are opposed to it lose sight of the fact that the purely advisory work is only a part, and I might say the smallest part, of the whole movement.

THOS. C. MAYHEW,
Farm Adviser for Madera County.

The apple production of the far west as forecasted by the department of agriculture is as follows, in thousands of bushels: New Mexico, 900; Arizona, 100; Nevada, 200; Idaho, 1500; Washington, 7600; Oregon, 3300; California, 5300. The total forecast for the whole United States is 210,000,000 bushels. This is 65,000,000 bushels more than last year, but 25,000,000 less than in 1912.

THE ORCHARD

PEACHES IN THE SAN JOAQUIN.

By Percy L. Edwards.

IT could be said with a great measure of truth that peaches is king in the San Joaquin valley this year. At least king of deciduous fruits. The crop of peaches, especially of freestones, is a wonder. It is too large for consumption. The writer was told that the capacity of the packing-houses was totally inadequate to care for the big crop of early peaches and thousands of tons would rot under the trees for lack of a market. The early peaches are largely of the Muir and Alberta varieties. They are freestone peaches and the crop generally the finest ever. The clings, such as the Tuscan and Phillips are later in maturing and are most in demand at the packing-houses for canning purposes. The writer was shown cling peaches as large as small cantaloupes. Hanging on the trees the sight of these big, luscious, sun-kissed products of the orchards of the San Joaquin, is a sight that no picture can do justice to. A real bunch of Tuscans as they mature on the trees among the green of the leaves, out does the handsomest picture ever taken of this fruit. The peach orchards of the San Joaquin valley are worth travelling many miles to see.

Climate and Soil Favor the Peach—That the peach is at home in the soil of this great valley lying well under the protection of the high Sierras and stretching away 80 miles to the Coast Range and the sea, is seen in the wonderful results obtained. The soil is largely made up of what is commonly called sandy loam. It is deep and rich. Here and there the soil takes on a heavier consistency akin to adobe. Most deciduous fruit trees flourish in this soil. Then the long period of hot dry weather just when the fruit is maturing does the rest. Artificial irrigation is resorted to by some orchardists, others in more favorable localities do not resort to irrigation.

Methods of Irrigation—The problem of irrigation of the deciduous orchards differs from the same problem applied to the foothill orange and lemon groves. In the foothill districts the method is to construct main contour ditches at the different levels and pump the water into these for general distribution. This is a considerable undertaking at some points. For instance at Lindsey Heights the water is pumped 350 feet and at Redbanks 420 feet high. This pumping is done by electric power and the Mount Whitney Power company furnishes the electrical power. The power company charges a flat rate of \$50 a year for each horsepower used, for day and night service. For the day service alone \$30 is charged for each horsepower used in pumping. The Kaweah river, whose source is in the high Sierras, about 30 or 40 miles east of Visalia, furnishes the water supply for the Cove district. Here the combined pumping power of the Mount Whitney company plants is 3800 horsepower. Power and light is supplied to a wide range of country by this plant, all on the flat rate system. Many ranchers use five-horsepower engines, perhaps this is the average. Some use more, some less. The open ditch system is used a great deal in the lower valleys, where are the deciduous fruit orchards. The ditches are tapped by laterals and the water distributed through the orchard from the head supply, much as it is in the citrus groves. But in the peach and prune orchards the grade has to be studied more carefully so as to distribute the water to all parts, or it results in flooding.

Mysterious Water Supply—The rivers are not the only source of supply of water in the Tulare district. A large sweep of the San Joaquin seems to be under the influence of subterranean connection with Tulare lake, a large shallow body of water whose dimensions are uncertain from season to season. Located in the upper central part of the San Joaquin valley, this lake is a mysterious place out of which rivers rise and disappear. The lake itself has, within the memory of settlers in that locality, been known to disappear and then rise again and flood the country for many miles around. This peculiar condition indicates a subterranean connection, perhaps, with the sea itself. At any rate it is a fact that water from wells may be obtained anywhere within the limit of the lake's influence by boring a short distance into the soil. The live-oak section of the valley, without doubt, has been rendered productive by this subterranean irrigation. It is a matter of common occurrence to find a farm where everything looks green while farms surrounding have the appearance of suffering for moist-

ure. Indeed, there are farms within the influence of the waters of Tulare lake that show an excess of moisture in the soil and should be drained of the excess. The writer was shown the effect of water standing too near the surface of the land in the case of root crops, such as sugar beets. Instead of long tapering roots they are minus the tap root formation, short in length and sprangly.

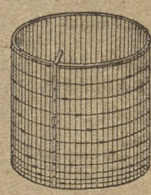
Spotted Soils—It is advisable that intending settlers of this part of the valley should learn these conditions in advance of locating in this district. Then again there are extensive patches of land so poisoned with alkali as to be unproductive. This is in places where alkali solution is in excess. These patches may be easily detected by the homeseeker, if he will come into this country, not in the rainy season, but in the dry season—July and August. In the rainy season the alkali is carried downwards in the soil and crops will grow here at first. With the in-

Freeman's Farmer

LEIGH R. FREEMAN, Managing Editor
North Yakima, Washington.

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THE ORCHARD

fluence of the sun's hot rays the alkali returns to the surface and practically destroys vegetation. If the rains are prolonged into the late spring months crops may mature, but the chances are against success on this sort of land. There are patches of alkali land running all through this valley and the settler should be careful in his selection of land. There can be little mistake made in the live-oak district as these trees do not grow on poor soil and where there is not moisture.

Grain Lands Are Set to Orchards—Many of the old grain farms of this valley are being set to peach and prune trees. At this time prune orchards are the most favored. As high as \$60 a ton is offered by the packers for choice fruit. Freestone peaches bring \$15 and clings \$25 per ton. This season the clings, largely the Tuscan variety, are in greatest demand by the packers. The Tuscan is a large handsome peach, very juicy and the flesh

FALL PLOWING FOR PESTS.

Stirring the Soil Before the Rains Will Not Retard Cover Crops, But Will Destroy Eggs of Pests.

By Howard C. Kegley.

THE aphid pest is said to have cost the melongrowers of Southern California \$150,000 this year. Not in a dozen years have the pests been so numerous and so destructive. Although it is not generally known, it is a fact that the aphid plague strikes a community simultaneously with the arrival of overwhelming swarms of ants. There is a very good reason for this. The aphid is known as the ant cow. The ant carries the aphid to vines and plants, and also to the branches of fruit trees, where the pest feeds upon

ing up the old patches will also free the place from weeds.

It will do no good for one farmer to undertake to rid a valley of aphid and grasshoppers by plowing his fields this fall, but it will do good, and lots of good, if all of the farmers in an infected district will get together and make a united effort to free the community of pests by plowing now. This can be done, and it should be done. Farmers are learning that profitable farming follows clean cultivation, and you might just as well plow to get rid of earthworms and parasites as to plow to get rid of weeds. Land is getting so valuable that it is up to the man who tills it to get a whole crop off from it instead of getting the little bit that the pests and parasites are willing to let him have. But in order to get a whole crop the farmer must fight the pests.

A NOTABLE EVENT.

Editor Farmer: The Apricot Annual at Winters, Yolo county, is an event in each year during the fruit season in that famous fruit section. This district has the record almost every year for producing the earliest apricots.

As usual, the affair this year drew a large crowd, coming from every section. Governor Johnson opened the meeting, and Highway Commissioner Stern crowned the "queen" of the occasion. Apricots is not the only crop by any means, this district being strong on peaches, pears, figs and other products as well as apricots.

Already arrangements are in the making for the 1915 annual, which will be bigger and better than ever. An effort will be made to run a special train from the Exposition City to Winters, to give California's visitors a chance to participate in the celebration. This section also has some record for its fine oranges and lemons. Much of the decorations this year were of oranges and lemon branches from the trees, full of ripe fruits, as well as apricots, which were the principal decorations. Nearly a carload of fresh fruits was used in decorations, which were in evidence everywhere.

H. S. MADDOX, Secretary.

She Knew Not the Hoosiers.

Miss Tompkins believed in speaking correctly. The boundaries of Boston did not contain all who were jealous of the purity of the mother tongue. Not from her should the makers of dialect stories obtain their material.

When she heard some friends discuss Edward Eggleston's best known novel she resolved to obtain a copy. She was quite sure she knew the title, although of course she would not slur her words the way some careless people did.

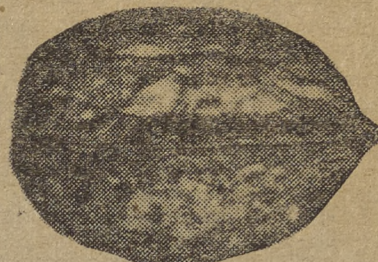
So she asked the salesman at the book store: "Have you a book by Edward Eggleston, entitled 'Who Is Your Schoolmaster?'—Youth's Companion.

A distinguished painter employed a small boy from a neighboring slum as a model. He gave the child some tea and asked him if he would like brown bread or white, expecting, as is usual with such youngsters, that he would ask for white. The boy, however, asked for brown bread.

"Hello," exclaimed the painter, astonished, "do you like brown bread?"

"Yes," replied the boy, "it's got more nitrogen in it."—Manchester Guardian.

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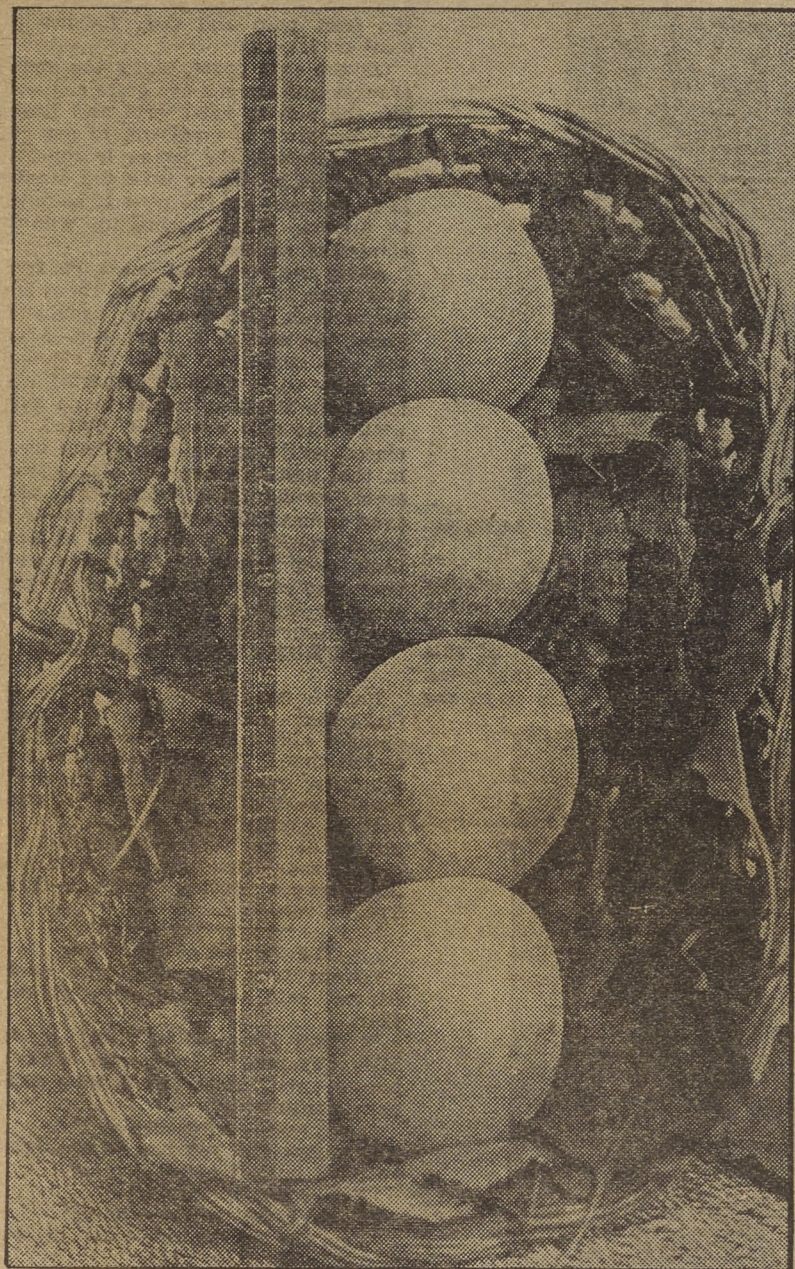
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SOME SANTA CLARA VALLEY APRICOTS.

keeps its shape through the canning process. It is in great demand in the market. More of this variety of peach, perhaps, than any other is being planted in the Tulare district. Intending growers of peaches should talk with the orchardists in this section as to best varieties for market purposes. Each section may have a favorite variety and soil conditions have considerable to do with selecting the best variety.

The importance of the Tulare district may be understood when it is considered that this present year that considerably in excess of 500 cars, mostly peaches, will be shipped from this district this season. The past year the shipments fell but little under that figure. These figures are for the green fruit and do not include the dried product. Of dried fruit the output this year is estimated to exceed that of the past year by many carloads.

The young orchards are laid out something like the citrus groves, with the exception that the trees are planted somewhat farther apart. After three years both peaches and prunes should begin producing crops. At five years these orchards are producing good crops. Spraying is quite generally resorted to, but not so with fumigation. There seems to be considerable difference of opinion as to the need of general fumigation in this district at this time on account of the absence of many of the pests against which fumigation is directed. The groves are many of them new and free from insect pests. But the need of fumigation is likely to grow as the orchards advance in age.

sap from tender twigs and stems. The ant then sucks its nourishment from the aphid. So whenever the ants come in plantations and brigades, lookout for aphid.

Practically the only effective thing with which to combat aphid is nicotine water sprayed upon the trees and plants. That kills the pest quickly, but is rather expensive. Air-slacked lime will also get results, but it is hard to apply, for the aphid works on the under side of the leaves, and lime can hardly be used at all in a melon patch.

Now is the time to act if you would rid your premises of aphid and grasshoppers for next year. During the next few weeks the aphid and grasshoppers will be laying their eggs. The pests burrow small holes into the ground and therein deposit their eggs, covering them with a mucous substance which protects them from the wet weather which is to follow. Throughout the winter the eggs lie dormant, but in the spring they hatch and scatter their destructive forces all over the land.

If the farmer goes into his fields within the next few weeks and plows them thoroughly, turning over the ground and throwing the eggs out into the sun or burying them so deep they will rot, he can forestall a probable visit from aphid and grasshoppers next year. In plowing the fields, attention should be given to turning over the borders, and the fence corners should also be dug up in some manner, for the eggs are hidden everywhere.

In sections where the pests have been unusually destructive this year it would be a mighty good plan to plow up the old alfalfa patches and seed them down again. Disking will help a lot. Plow-

Fortunes in Peach Orchards

Hundreds of growers say there is more money in peaches than anything else. B. Carine, South Glastonbury, Conn., started in 22 years ago with \$20. Today he has 100,000 trees, owns 4000 acres, and is a rich man. He made practically all his fortune on peaches, and says the

Biggest Money-Maker Is Stark Early Elberta

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Herman U. Glaze,
Manager.

SOME CITRUS PESTS.

Calendar of Insect Pests and Plant Diseases.

By E. J. Vosler, Assistant Superintendent, State Insectary.

UNDER the above heading the author aims to give brief, popular descriptions and methods of controlling insect pests and plant diseases as nearly as possible just prior to or at the time when the suggestions given be carried into effect by the growers.

The Black Scale—The black scale is our worst enemy of the citrus tree. The adult scales are black with a distinct "H" on the back, and are from one-eighth to one-fourth of an inch in diameter. They lay their eggs mostly during the months of May, June and July, although they may sometimes be found in all stages at this time of year. The young scales are most abundant from September to December. The young scales feed principally upon leaves shifting to the limbs as they become larger. The injury by this scale is partly that caused by the excretion of honeydew which furnishes a medium for the black-smut fungus which covers the fruit and leaves, causing much damage. Injury also results from decay, due to the vigorous washing the smutty fruit must receive in order to improve its appearance. The black scale occurs throughout the state, but is more abundant along the coast. It attacks all citrus trees, the olive, apricot, grape, oleander, almond, pear, etc. It is best controlled by fumigation on citrus trees. Fumigate with one-half to three-fourths schedule, between September and January, the one-half schedule being used when there is an even hatch when the scales are very young. The time to fumigate will depend on the evenness of the hatching period. The orchardist should fumigate at the time that all the eggs are hatched and the young have not yet become well-grown. On deciduous fruit trees and olives, spray before the scales have become half-grown, with water, distillate, caustic soda, mechanical mixture or distillate emulsion. The formula for the former spray is as follows:

Water 200 gallons
Caustic soda (95 per cent) 7 pounds
Distillate (28 degrees Baume)

..... 10 gallons
Fill the spray tank with the water and then add the caustic soda, which has previously been dissolved in a small amount of water and add the distillate; agitate thoroughly.

The formula for the distillate consists of:

Distillate (28 degrees Baume) 20 gallons
Whale-oil mix 30 pounds
Water to mix 12 gallons

Dissolve the whale-oil soap in water, heating it to the boiling point, then add the distillate; thoroughly agitate while the solution is warm. For use add to each gallon of the above mixture 20 gallons of water.

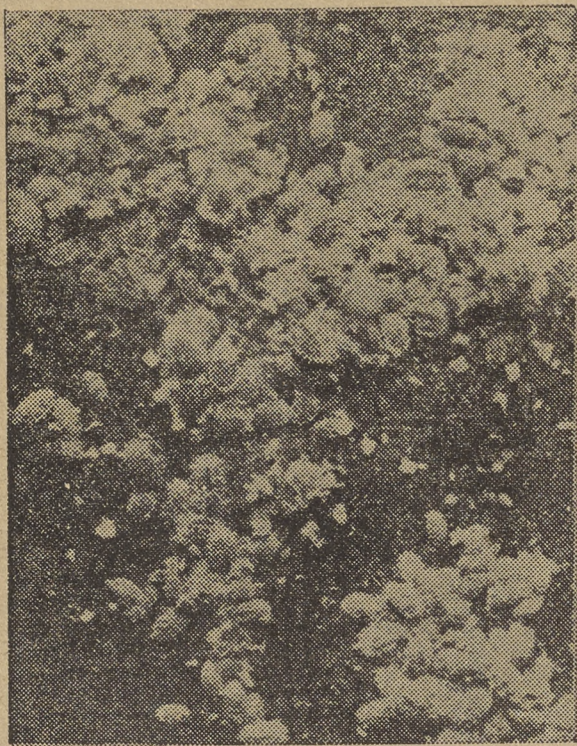
It is better to spray the deciduous trees after the leaves have fallen, and the olives after the fruit has been picked. For equipment, procedure, details of fumigation, etc., the reader is referred to pages 318 to 336 of Nos. 1 and 2, of Vol. II, Monthly Bulletin of the state commission of horticulture, by E. O. Essig. Do not fumigate un-

der 36 degrees Fahrenheit, or over 70 degrees Fahrenheit.

The Red Scale—Another destructive scale enemy of the citrus is the so-called red scale. This scale is reddish, circular and flat, and the females are from one-sixteenth to one-eighth of an inch in diameter. The young are usually produced from June to September, or even longer in milder sections. It is distributed throughout the southern citrus belt, particularly in San Diego, Orange, Los Angeles,

low scale occurs throughout the entire citrus growing sections of the state. The method for control is the same as that for the red scale.

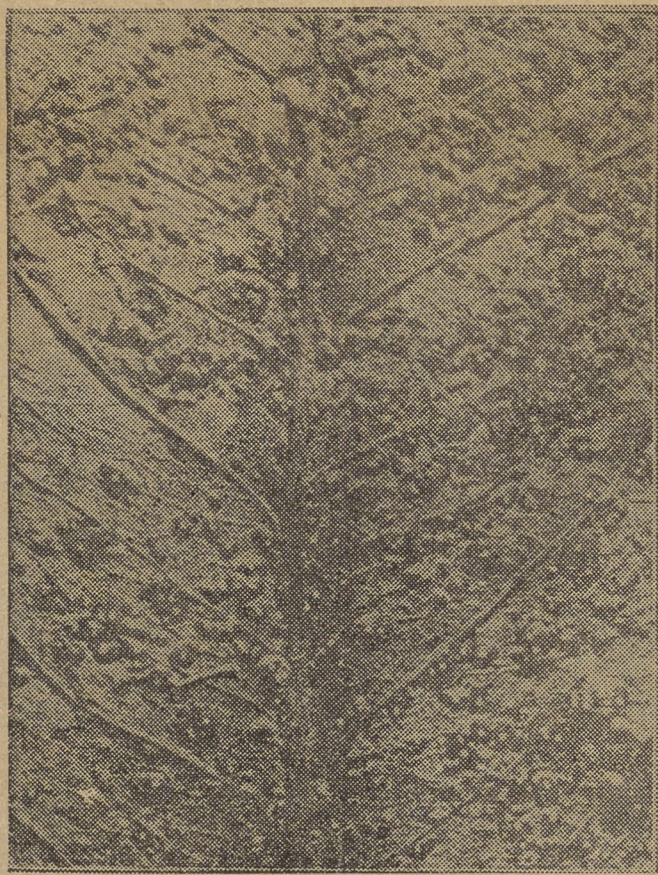
The Purple Scale—The purple scale attacks the leaves, branches and fruit of the citrus tree, causing the branches to die and the leaves to drop. The female scales are long and oyster-shaped, and vary from one-sixteenth to one-eighth of an inch in length. The covering of the scale varies from a reddish brown to purple. Fumigate



THE CITRUS MEALY BUG, PSEUDOCoccus CITRI, ON LEMON, TWICE ENLARGED.—(AFTER ESSIG.)

Riverside, San Bernardino and Santa Barbara counties. Fumigate with Schedule No. 1, made by R. S. Woglum of the United States bureau of entomology. This dosage consists of one and one-half ounces of potassium

with full Schedule No. 1, consisting of one and one-half ounces of potassium cyanide to every 100 feet of cubic space, or three-fourths of this dosage for sodium cyanide, this being done when the black scale is in the



YELLOW SCALE, CHRYSOPHALUS CITRINUS COQ. ON ORANGE LEAF.—(AFTER ESSIG.)

cyanide, one and one-half fluid ounces of sulphuric acid and four and one-half fluid ounces of water to every 100 cubic feet of air space.

The Yellow Scale—This scale resembles the red scale but is more yellow in color, lies flatter upon the leaf and is sometimes larger in diameter. The red scale attacks all parts of the tree while the yellow scale attacks almost entirely the leaves and fruit. The yellow

right stage to be destroyed.

Citrus Mealy Bug—The citrus mealy bug is a soft bodied mealy-coated sucking insect about one-fourth of an inch in length in the adult stage. The female deposits large numbers of eggs in a cottony mass. It is distributed over the entire state, but is a pest in only a few localities, notably Ventura and San Diego. The mealy-bugs attack all parts of the tree, particularly the fruit. They may cluster on the fruits and even will be found in the navel ends of the oranges. The mealy-bugs give off large quantities of honeydew which furnish a medium for the black smut fungus and render it necessary for the fruit to be washed. Some of the fruit is lost through decay, as a result of the vigorous washing and cleaning which it must go through after having been covered with the honeydew. The insects are most abundant during the spring and fall periods. The best method for controlling this pest consists of spraying the trees with a carbolic acid emulsion spray. This should be applied during the winter or in the spring when the young mealy-

bugs are hatching. Fumigation will destroy many of them, but is not recommended unless the grower is endeavoring to treat the trees for the red, yellow, black or purple scales, at which time many mealy-bugs will be killed.

CITRUS TREES GROW WILD.

By Howard C. Kegley.

ALTHOUGH many of the best varieties have been introduced, citrus fruits appear to be indigenous in Madagascar, for oranges, lemons and mandarins are to be found growing wild.

The citrus industry of the island is seriously menaced by insect pests which retard extension work considerably. On the west coast there is a variety of orange tree which grows up to a height of from 25 to 35 feet, but it bears a poor grade of fruit which contains a very small amount of juice. At certain seasons of the year this tree is attacked by a little larvae which eats the fruit pulp and then finishes its meal on leaves.

On the east coast, along the shore, oranges and lemons are quite common, but the soil is hard, arid and flinty, and the fruit is mediocre, to say the least, although the lemon is reported to average up better than the orange. In no instance are the trees to be found in forests. They spring up wild in clumps of shrubs.

Along the northwest coast, on trees averaging 15 feet in height, there is a lemon fruit which grows, usually to about the size of a hen's egg. Along the east coast two kinds of mandarins grow wild, while an imported variety from Zanzibar seems to do quite well. The east coast is dotted, in places, with imported grape fruit trees. In that section there are also innumerable semi-tropical fruits—figs, papayas, pomagranites and mangoes—to be found growing in a wild state. At Nanisana and Tamatave there are some very interesting observations in progress at experiment stations.

CITRUS OUTLOOK BRIGHT.

Reports from Florida are to the effect that the outlook for Florida oranges and grapefruit is very bright at this time. The fruit has set well on the trees, and all indications favor the development of a good crop of fruit, both in quality and quantity. Florida grapefruit will be ready for market during the latter part of September, and oranges during October.—Fruit Trade Journal.

The Pursuit of Happiness.

"Every man has the right to be happy," said the readymade philosopher.

"I don't know about that," replied Miss Cayenne. "Some men can't be happy unless they are making other people miserable."

"I understand you had to undergo a surgical operation?"

"Yep, some operation."

"Doctors cut anything out?"

"Yep, cut out the auto I had planned to get."—Houston Post.

Boob—Which was hurt worse, you or the wheel?

Simp—Well, when they picked me up I was speechless and when they picked the wheel up it was spokeless.

"One-half the world doesn't know how the other half lives," quoted the wise guy.

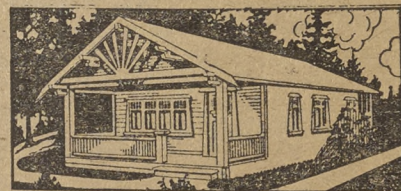
"Yes," agreed the simple mug, "some people spend half their time wondering how they are going to spend the other half."—Philadelphia Record.

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made doubly productive by studying our complete course in Agriculture and Fruit Raising. It contains facts of unusual value and explains in concise, clean-cut language what to do and how to do it. A big help to all wishing to secure the best results from land. Endorsed by Home Industry League. Chartered 1903. Booklet describing this and 60 other money-making courses sent FREE. Dept. 4.

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We will save you half of the ordinary building cost. Write for free catalogue or call. KENYON PAPER COMPANY, No. 7 Franklin St., San Francisco, Cal.

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NOW READY—NEW COUNTY SECTIONAL Maps of different counties having four kinds of GOVERNMENT LAND now open for entry plainly marked on different sections in darker color (not one dot for township). Streams, Wagon Roads, Towns and other data on maps to help you in finding the land. HOMESTEADS, 160 to 320 acres for the asking. TIMBER LAND, either wholly or partly timbered, \$10 down. ISOLATED LAND, 40 to 160 acres, \$1.25 an acre and up, no payment required for one year. Also MINING LAND. Plenty of water, ideal climate, good soil for garden, fruit, pasture, etc. While these bargains last any man or woman, married or single, can buy isolated timber or mining land and get perfect title direct from Washington. Maps as described above \$2.50 per county.

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Joseph Clark, Manager,
Sacramento, California.

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We make prices right to everyone.

We carry the genuine Varoman strain of Franquette Walnut, originally imported from France. Also all kinds of Fruit and Ornamental Trees.

Write for our advanced price list.

Wholesalers and Retailers.

PRODUCING CLEAN MILK.

The Cows and Their Care Is Perhaps the One Most Important Essential.

TO HAVE healthy cows is one of the first essentials of the production of clean milk. If the cows are diseased their milk is apt to contain disease-producing bacteria, or be otherwise abnormal. Such milk is not clean nor safe as an article of food, even though there is no visible dirt in it.

The cows should be tested for tuberculosis by a capable veterinarian at least once a year, and if diseased animals are found the herd should be tested twice a year. All cows which react, showing that they are infected with the disease, should be removed from the herd and the stable and premises thoroughly disinfected.* No additions should be made to the herd without subjecting all animals purchased to the tuberculin test before they are brought to the farm. They should then be kept separate from the other animals for at least 60 days and retested. Without the use of tuberculin the cattle owner is confronted with serious and continued losses; with its use the disease can be eradicated from the herd and the danger of its spread to man from this source removed.

Special attention should be given to the condition of the udder, and any milk which appears slimy, ropy, watery, or otherwise abnormal, should not be used as food. As a rule milk should not be used within 15 days before calving or during the first five days after calving. It is well not to use milk from cows which have been given powerful drugs, for they pass through the tissues of the mammary gland and into the milk.

The external condition of the cow is a most important factor in the production of clean milk. One of the greatest sources of milk contamination is the dirt on the outside of the animal's body. It is therefore essential that extra care be given to keeping the cow free from accumulations of mud and manure. Grooming is usually dispensed with, as it costs money, yet there is far more reason for the daily grooming of an animal that produces human food than of a horse which hauls a manure spreader or a garbage wagon. Custom, however, demands that the horse be kept clean, and this custom must be extended to include cows on farms where clean milk is produced. Cows on pasture usually keep cleaner than when in the barn, but though they appear clean, they may be very dusty, and should be brushed before each milking period. When kept in stables they require a thorough cleaning at least once every day. It is well to clip the long hairs from the udder, flanks and tail, in order that dirt may not cling to them. It is desirable that the bedding be clean, dry, and used in sufficient quantities to promote the comfort of the animal, especially where the floor is of concrete.

The cow should not be groomed, bedded or fed immediately before milking, as these operations fill the stable air with dust and bacteria. Frequent attention to the distribution of bedding is just as important as to supply a large amount of it. Often a tour through the stables the last thing at night and a few minutes' attention to the distribution of the bedding at that time will save half an hour's work of cleaning the cows in the morning. If the manure is daily removed a considerable distance from the stable, bad odors from it will be kept from tainting the milk, and it will diminish the danger of contamination from filth-laden flies. The fly nuisance is caused by accumulations of manure in which the flies breed, and if conditions are favorable for daily removal of manure to the fields, this should be done. Flies carry bacteria and filth, and earnest efforts should be made to keep the stable free from them. If the stable and its surroundings are clean, free from accumulations of manure and other materials which attract flies, the stable can be kept fairly free of them by the use of fly poison and traps. Good forms of fly traps are described in Farmers' Bulletins 532 and 540. In addition to removing the accumulated manure from the gutter every day, the soiled bedding from under the cow should be raked back into the gutter and replaced with clean bedding. No animals other than cows should be allowed in the stable. The open-shed system of keeping cows is advocated by many dairymen and has some advantages, but it is essential that the shed be kept dry and be open on the south side. This method is being thoroughly tested at the dairy farm of the bureau of animal industry, at Beltsville, Md.

The feed for cows should be palatable and nutritious. Moldy and decayed feed and such feeds as may injuriously affect the cow's health or the character of the milk should be carefully avoided. The odor and flavor of milk are very readily affected by rape, cabbage, turnips, and other feeds having strong odors, and where these are used they should be given after milking, in which case there is little danger of contaminating the milk. Where pastures are overrun with garlic or wild onion, the cows should be removed from the pasture several hours before milking.

When silage first came into use as a feed for dairy cows there were many objections to it on the ground that it unfavorably affected the flavor of the milk, but these complaints are now less common, as the bad flavors have been found to be due to a poor quality of silage, improper feeding, or because silage odors were absorbed from the stable air. Good silage fed in reasonable amounts after milking will not injure the health of the cow nor impair the quality of the milk. It must be fed after milking, and all uneaten silage removed, so that the silage odors will disappear from the air before the next milking period. Many health authorities forbid the feeding of wet brewers' or distillers' grains to cows because the wet grains ferment rapidly and produce strong odors which are absorbed by the milk, and under ordinary conditions the stable and cows become so filthy that the production of clean milk is impossible.

Owing to the dust and odors which arise from the feeding of hay, grain and silage, it is best, from a sanitary standpoint, to feed after milking rather than before. A liberal supply of salt should be provided in a place where the cows can have ready access to it. It is of prime importance that the cows have an abundance of fresh, pure water. Cows which produce 25 pounds of milk a day require 75 pounds or more of water daily, and instances are on record in which heavy milkers have consumed more than 300 pounds of water a day. This large quantity of water is necessary not only for the formation of milk, but also for the digestion and assimilation of the large quantities of food consumed, much of which is roughage. It is not wise to permit cows to drink large amounts of ice-cold water, and in order to encourage them to drink a sufficient amount of water in extremely cold weather it is necessary to warm the water slightly. The water trough should be kept clean and be so situated that the cows when drinking will not be exposed unnecessarily to extremes of weather.

*Directions for disinfecting stables are given in Farmers' Bulletin No. 480.

GAS IN PIT SILOS.

Testing the Pit for Carbonic Acid May Be Quickly Done and Should Not Be Neglected.

THE builders of pit silos should be on the lookout for the presence of carbonic acid gas, which is a deadly poison and which is the result of the decomposition of vegetable matter. It is a heavy gas and settles in the bottom of silos built below the ground. It is comparable to "choke damp" experienced in wells. However, the danger is not such as should operate against the construction of pit silos. There is no reason why people should quit riding on the railroad because there is an occasional loss of life.

The presence of carbonic acid gas can be detected or determined by dropping into the silo a lighted lantern. If the flame is extinguished the gas is present and it would be dangerous to life. If the gas is detected, then it must in some manner be removed, and this is difficult. Probably the most practical method is that of dropping into the silo sacks filled with hay or bundles of fodder and which would have the effect of creating a commotion in the silo and thereby dislodge the heavier gas and give the air a chance to take the place vacated by it. There is no known means of ventilation unless a ventilator be so constructed as to reach to within a short distance of the silage and extend above the top of the silo to a sufficient height to create a draft, on the same principle as the large smokestack.

We recall having read of an incident in which the silo had been closed for a long time following the feeding season and silage had been left in the bottom and badly decomposed by seepage of water into the silo. Loss of life followed an attempt to remove the rotten mass from the silo. We think that the daily opening of the silo during the feeding season and the removal of surface silage daily will not result in the

accumulation of gas, and this leads to the suggestion that at the close of the feeding season and before there is occasion to again go into the silo the above precaution should be exercised. There is no danger from gas in silos constructed above ground. The opening of doors on the level of silage obviates danger.—Kansas Farmer.

IMPORTANT JERSEY SALE.

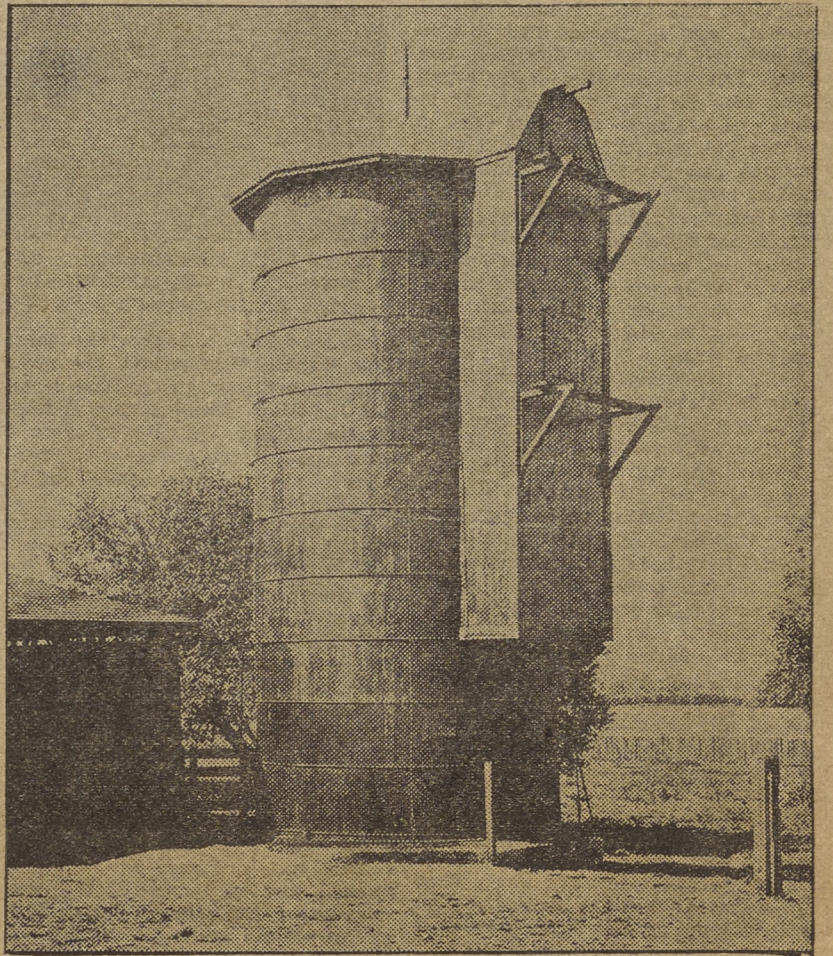
A Modern, Up-to-Date Dairy Conducted by a Woman.

Pacific Grove and Monterey are to have clean milk in future. Mrs. L. J. Dobbins of Monterey has just completed spotless dairy buildings with concrete floors and gutters, screen doors and hard paint which can be

COUNTING THE BACTERIA.

The subject of milk examination with respect to sanitary quality is exceedingly important; and any method that makes satisfactory examination easier or quicker should be of interest to both producer and consumer. The direct microscopic examination of milk, as discussed in Bulletin No. 373 of the Station at Geneva, New York, seems very promising as a means of counting the bacteria; as it is a much more simple, rapid and inexpensive method than the common one by the use of culture plates; and comparative tests indicate that it is fully as accurate and perhaps more severe than the plate method.

In Bulletin No. 380, the number and significance of cells in milk is discussed, as studied by this same method. The connection of the cells with any unwholesome condition of the milk could not be established.



REDWOOD STAVE SILO AT HOPLAN D.

The accompanying cut shows one of two 14x30 redwood stave silos erected by the Redwood Manufacturers company, San Francisco, for the Hon. A. W. Foster. These two silos are located on different portions of his stock farm at Hopland and are of the highest type of wood stave silos made. Their capacity in corn or ordinarily heavy alfalfa is

108 tons, and their dimensions are well-nigh perfection from a silo standpoint. Mr. Foster has been experimenting with silos for ten or 12 years and has several on his Hopland stock farm of different varieties. The fact that after all these experiments he selected the Redwood Manufacturers company's silo is distinctly a strong recommendation for them.

scrubbed. Mrs. Dobbins is a business woman from tip to toe with sparkling eyes which will detect every appearance of dirt.

In making selections for the dairy Mrs. Dobbins has been very critical, and only those cows passing a rigid examination have been purchased.

As a herd header Mrs. Dobbins has been equally critical, and Santa Clara county has been honored by the selection from the Garden City Sanitarium herd of Victor Hopes' Victor, No. 117-161. Victor's dam came from Conn, and has been in the Sanitarium herd since. She is a very heavy milker, seven gallons per day, and a high tester, 8.2 per cent fat. She is in the Register of Merit AA, with double the requirements necessary. The sire of Victor is Girties Son, a bull noted for his get.

While Victor is but a senior two-year-old we have six of his sons and daughters which show him to be a master breeder. The price paid for Victor was \$500.

The first shorthorns imported to America were brought to Virginia in 1783, and though not called shorthorns the evidence shows them to have been of this breed.

Crops can be put in the silo during weather that cannot be used in making hay or curing fodder, which is an important consideration in some localities.

The original home of the shorthorn breed of cattle is in northeastern England in the counties of York, Durham and Northumberland.

Silage loses much less than dry corn fodder and is always relished by the animals, summer or winter.

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COCOANUT OIL CAKE

Milk Cows give more milk. Chickens lay more eggs. Young Pigs and Hogs produce more pork. Cheapest food in the market today.

WRITE FOR LITERATURE containing information on rations, comparative food values, etc.

ELDORADO OIL WORKS

149 California St., San Francisco.

Pull Big Stumps Quick and Easy \$1280 from 40 acres the first year stumps are out.

Pulls an acre a day. It doubles land values. Enables you to grow crops instead of paying taxes on land that yields nothing.

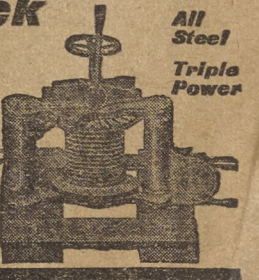
HERCULES Stump Puller

More power than a tractor. 60 per cent lighter, 400 per cent stronger than cast iron puller. 30 days' free trial. 8-year guarantee to replace, free, all castings that break from any cause whatever. Double safety ratchets insure safety to men and team. Accurate turning means light draft. Mail postal for free book showing photos and letters from owners. Tells how to turn stump land into big money. Special introductory price proposition will interest you. Write now.

HERCULES MFG. CO., 165 23d St. Centerville, Iowa

From Michigan

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GOOD CONCRETE WORK.

The Proper Proportions of Sand, Gravel and Cement Must Be Maintained.

H. B. Reid, in Michigan Farmer.

THE answer to the question, "How to build a concrete silo, as to proportions of sand and gravel," "one part sand, six parts of ordinary bank-run gravel," is absolutely wrong, and we only hope that the silo will remain standing and in good condition. The proper mixture, which would have been much more economical for the farmer to use, would be what we call 1:2½:4—that is, one part, one cubic foot, or, in other words, one sack of Portland cement to two and one-half cubic feet of clean, coarse sand, up to and including a quarter-inch in size, and four and one-half cubic feet of clean gravel or crushed stone free from dust, clay and all other foreign material, from a quarter-inch to one and one-half inches in diameter, not larger. Immediately the farmer says: "Why, this is 1:6½ mixture." It is nothing of the sort—any more than if you can put one foot in a No. 7 shoe that you can get both feet into one twice as large.

It is a fundamental principle of good concrete work that the sand and gravel be separated arbitrarily into two sizes. It can easily be done by using a three-eighth inch screen of wire cloth separating the bank-run and pit gravel into two parts. This will allow all the material which goes through the screen to be classed arbitrarily as sand, which is the second part of the mix, and all that is retained on the screen to be classed as gravel, the third part of the mixture. It has been discovered in laboratories without number where thousands of tests of bank-run material have been made, that the average pit-run gravel or bank gravel averages over 70 per cent fine sand. In good concrete fine sand should not be greater than 33 1-3 per cent of the entire mix. It is obvious that as Portland cement forms much the smaller part of any concrete mix, that more attention must be paid to properly separating and proportioning the sand and gravel. Cement is no magic material, and its function is merely to act as mortar, holding together the millions of particles of sand and gravel. If there is too much fine sand, it is quite apparent that the cement will be swallowed up. If the sand is reduced to proper proportions the concrete will be stronger, richer, less porous, and often water-tight. The farmer has everything to gain in using his materials properly screened, and everything to lose by not doing so.

SILOS IN DEMAND.

California farmers are waking up to the value of silos as is evidenced by the new ones recently installed or in process of installation in various parts of the state. The Redwood Manufacturers company reports two new ones the past week, one for B. and L. Wing at Woodland and one for Louis Mitchell, at Livingston, Cal.

Prof C. H. Eckles of the Missouri Agricultural college announces that proper feeding during calfhood will increase the percentage of butter-fat given by the cow. Heretofore this was thought to be impossible by any means.

Cowpeas are an exceedingly desirable crop as a soil renovator and a hay crop.



FROM THE ROOTS UP
Think up your wants in the Nursery Stock Line for this coming Winter's planting and submit a list of your wants for quotations. We are headquarters for FRUIT TREES and GRAPE VINES, "Guaranteed From the Roots Up." Large illustrated Catalogue full of information, planting directions, etc., mailed free. Address:

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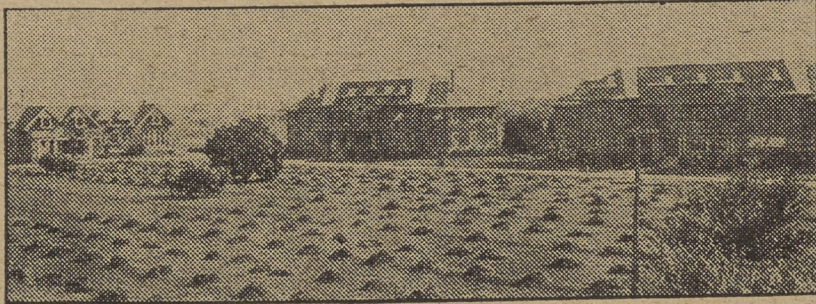
THE FARM

BIG CROP OF ALFALFA.

By Careful Culture a Bumper Crop of Alfalfa Is Produced at Davis.

NO less than three and a third tons of alfalfa to the acre have been cut this summer by the University of California at the University Farm at Davis, in two cuttings, within five months from the time the seed was placed in the ground.

Visitors to the University Farm at Davis this summer have been greatly interested in the excellent showing made by the spring seeding of alfalfa in front of the dormitory. This land grew a crop of barley in 1913, after



WITHIN FIVE MONTHS FROM THE TIME THE SEED WAS PLANTED TWO AND ON-THIRD TONS OF ALFALFA WAS CUT TO THE ACRE. THE PHOTO SHOWS HOW THICK THE HAY LAY ON THE GROUND.

summer fallow the previous season. The stubble was burned, the ground plowed, and then the ground levelled for irrigation between the dates of October 7 and 31, 1914. During the latter half of February and prior to March 3 the land was checked and then levelling was completed.

The ground was then harrowed and seeded on March 11 at the rate of 18 pounds per acre, with a drill placing the rows of alfalfa seed six inches apart. The ground was immediately rolled. Shortly after, a light rain fell, but not sufficient to prevent the alfalfa coming through the ground.

May 8 the weeds were cut and allowed to lie on the ground. From May 22 to 27, it was irrigated with five inches of water, from a well. On June 15, the first crop was cut, yielding 1.16 tons per acre, of excellent hay. On June 30, the second irrigation, consisting of six inches of water, was applied, and on August 10 the second crop was cut, yielding 2.2 tons of hay of excellent quality. Within five months from the time the seed was placed in the ground three and one-third tons of alfalfa have been obtained. The accompanying photograph shows how thick the hay was on the ground.

A COMBINATION AUTO.

Y. R. Del Valle had long felt the need of a delivery car, which with little trouble could be turned quickly into a family car for use on Sundays and holidays. He was unable, however, to figure this combination out until he secured the southern California agency for the Vim Light Truck, which on account of its design, low price, and other qualities, seemed almost built to order for carrying out his ideas.

Mr. Del Valle has designed a combination body, which is a regulation delivery car, but which by the simple addition of an extra seat, which is very easily and quickly set in place, becomes a very satisfactory family car. He uses the standard Vim chassis, and the combination bodies are built under his supervision.

The use of a strictly pleasure car for hauling and delivery purposes has been proven a decided failure in the past, from the standpoint of economy and depreciation of the car itself.

The unusual interest in the Vim has also been partly due to the enviable performance of this little car in the recent truck contest, when it carried a load of 1000 pounds with two passengers 203 miles on eight gallons of fuel or over 25 miles per gallon.

BLACKLEG VACCINATION.

Many cattleraisers never know what the disease called blackleg is until it makes its appearance among their herds, and then they find out by experience. Curing blackleg is impossible, but fortunately, there is a means of preventing it.

The means of prevention is by vaccinating the animals, just as human beings are vaccinated to prevent smallpox. To perform this vaccination with blacklegoids is a very simple matter. They are simply a little pill, and they are injected under the animal's skin with one thrust of an injector.

Blacklegoids are superior to powder-

ed vaccine, as each pellet is an accurate dose.

Any one can use blacklegoids, as the operation is so simple, and they may be procured from any druggist in the world. It is always well for the livestock raiser to keep posted on animal diseases, so that he may recognize them when they appear.

Parke, Davis & Co., the manufacturers of blacklegoids, will gladly send a complete descriptive circular on this product free of charge to any of our readers; also, if you are interested and write them, they will be glad to give you any information in their power regarding blackleg. The circular and information are sent to you free of charge and are the result of years of study along these lines by experts.

SOUDAN GRASS.

By Howard C. Kegley.

With seed which he obtained from one of the government experiment stations, Professor Isaacs had some interesting experiences with Soudan grass last year, on King ranch, seven miles northwest of Victorville. He planted the grass seed in rows three feet apart, like Egyptian corn. Before the end of the season the stalks ran up to a height of from six to eight feet. For the reason that he desired to save the seed, Professor Isaacs allowed the grass to mature instead of feeding it green. However, the ranch horses ate the dry stalks greedily.

Owing to the fact that it requires a very small quantity of moisture, Soudan grass promises to be a great thing for the farmers of the arid and semi-arid sections. It grows luxuriantly on a scarcely noticeable supply of moisture, and produces heavy tonnage on a limited area. For these reasons it looks like a bonanza forage crop for regions where water might be more plentiful than it is.

During the past couple of years experiments with Soudan grass have been conducted on the Hull ranch in the Victor valley with moderate success.

Cotton anthracnose causes an annual loss of several millions of dollars.



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Hogs can be produced at Fairmead for 4c per pound. Present prices 8c to 10c cash. That's farming for real money. Good cows at Fairmead are bringing \$8.00 to \$10.00 each cash per month. One acre of alfalfa at Fairmead will support a cow or 12 to 20 hogs the year round. Why not farm for money at

FAIRMEAD

The can't-be-beat fruit and alfalfa section of the San Joaquin Valley, where land prices are still low. Fill out and send today the following coupon.

Co-Operative Land and Trust Co., Owners

593 Market Street, San Francisco.

Kindly send me your free booklet, "How to Obtain a Farm at Fairmead on Easy Terms."

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Evergreen, the scientific cow feed, will produce more and better milk and cream. It keeps your cows in better health and makes money for you. Evergreen makes your cows give more milk.

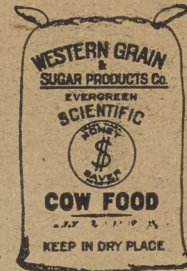
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High in food value. Puts the animals in perfect trim. Easily digested. Your horses can do more work. Sugar is scientifically combined in Evergreen and Vigorator to meet the needs of the animal for milk, meat and energy.

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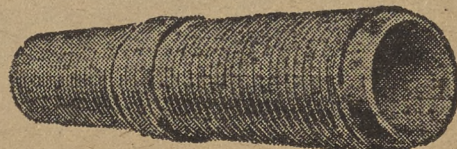
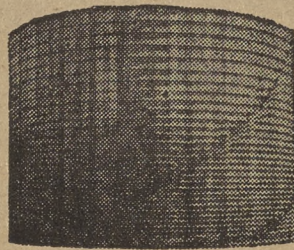
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All sizes and dimensions made to order for your particular conditions.

This is a Photo of the 20x40 Redwood Stave Silo manufactured and erected by us on the Sheldon ranch, Kenwood, Cal.

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From 500 to 500,000 gallons capacity. Built to suit all uses and users. Cheaper than Metal Tanks, last 10 times as long.



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All Designed by our expert engineers. Made in our own immense factory from clear, air-dried redwood, selected from Air-Dried Stock of 40 Million Feet, which we carry at our plant at ALL times. Write us for prices.

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EDUCATIONAL

PERMANENT ORGANIZATION.

The Farmers' Protective League of California Is Now Organized on a Permanent Basis.

A T A meeting of delegates from 30 counties held at league headquarters at Sacramento Saturday the organization was perfected and will maintain headquarters at Sacramento. A complete set of officers was elected as follows:

President, Frank B. McKeivitt, Sacramento; first vice president, G. H. Hecke, Woodland, Cal.; second vice president, Mrs. Emily Hopkin, Yolo; directors—L. F. Graham, San Jose; George H. Cutter, Sacramento; C. C. Teague, Santa Paula; C. N. Hawkins, Hollister; K. S. Knowlton, Bakersfield; R. J. Cooper, Selma; James T. Boyer, Visalia; George W. Pierce, Davis; M. D. Wilder, Santa Cruz; J. W. Guiberson, Corcoran.

Two directors representing the upper Sacramento valley are to be appointed.

Roy L. Allen of Hollister was appointed chairman of the important committee on ways and means, and the other committeemen are James T. Boyer, E. N. Richmond, G. H. Hecke and Geo. H. Cutter.

"We will undertake immediately to double the membership of the Farmers' Protective league," declared chairman Allen, who has a wide acquaintance among farmers and has had large experience in organization work.

The prevailing opinion was that the farmers of California, who are the real developers of the state must maintain an active organization in order to cope with changing conditions. Not only should the league be ready to oppose laws that are harmful to agriculture, but it should be prepared to espouse laws designated for the benefit of all.

Proposed Laws Taboo.

The league unanimously decided to oppose proposed laws as follows:

Amendment No. 3—The universal eight-hour bill.

Amendment No. 6—Water commission act.

Amendment No. 7—Single tax or local taxation exemption.

Amendment No. 45—One day rest in seven.

GROW OUR OWN SUGAR.

It Is Not Good Business to Import Products That We May Grow at Home.

"A TOTAL of 2,000,000 acres planted to beets would free us from dependence upon foreign-grown sugar," says Bulletin No. 260 of the United States department of agriculture in calling attention to the ease with which the United States could make itself independent of the rest of the world for its sugar supply. The bulletin prints a list of 19 states which have been demonstrated to be well adapted to the growing of sugar beets. These states are California, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, North Dakota, Ohio, South Dakota, Utah, Wisconsin, Wyoming. These states contain more than 2,000,000 farms and over 278,000,000 acres of improved lands. The bulletin continues:

"If one farmer in four in these states were to plant a three-acre patch and give it the care that could readily be bestowed upon so small a plot it would be unnecessary for us to buy foreign sugar. Two-thirds of 1 per cent of the improved land in this area is all that would be required to accomplish this result. More than that acreage lies idle, absolutely unused, every year. Any one of the states of Illinois, Iowa, Kansas, Missouri, Minnesota, Nebraska or Ohio could produce all this sugar and then have the beets occur only once in a ten-year rotation; several of the others could do it alone on a five-year rotation.

"From this table it can be seen that devoting the proposed 2,000,000 acres to sugar-beet production would have an utterly insignificant effect in reducing the acreage of other crops. If they were grown in properly considered rotations with any of these crops except cotton and rice the effect of the beets in increasing the yield of the others would much more than counterbalance the acreage taken from the latter. All that is necessary, so far as acreage is concerned, in order to make us independent sugar producers, is to bring the crop to a parity with flax or rye."

Tommy—Why do ducks dive?
Joe—Guess they must want to liquidate their bills.

PRIZES FOR GARDEN WORK.

Madison, (Wis.), Schoolchildren Exhibit Their Garden Products and Receive Prizes.

A N exhibit of vegetables and flowers that would do credit to wise and experienced gardeners was that shown by the Madison Garden association yesterday on the capitol grounds under a tent at the Monona-avenue entrance to the park. The many green things shown was the result of the work of the 175 children who have grown gardens in various parts of the city during the summer, under the supervision of the association, which, with the co-operation of the school board, provided instructors for the children.

The exhibit included every known garden product from melons to monstrous turnips, cabbage and large juicy tomatoes. During the entire day the tent was the scene of a large throng of admiring people, commenting on the fine showing made by the children. Mixed in the crowd were many youngsters, ranging from 6 to 15 years, wearing the yellow badges of the association, inspecting the produce of their brother and sister gardeners and thinking back over the days when they planted their seed, hoed the growing plants and pulled out the faster-growing weeds.

The sum of \$125, donated by the Savings Loan and Trust company, was distributed to the prizewinners in the garden contest, conducted by the association. L. L. Oeland, president of the Garden association, introduced Superintendent R. B. Dudgeon and Mayor Kayser, who spoke encouragingly to the children on the results of their summer's work. Professor L. B. Wolfenson presented the prizes for the tenth ward gardens.

A picture of the children, who were prizewinners, was taken afterward in the steps of the capitol and then refreshments were served to all of the children, which concluded the royal festivities given in honor of the youngsters.

The group prize was won by the Division-street group of 23 children, each child receiving a prize of \$1.—Madison (Wis.) Democrat.

SANTA CLARA COUNTY AT THE STATE FAIR.

THE Santa Clara county management frankly says that they did not attempt anything fancy at the state fair this year, but that they tried to show the educational facilities of their county coupled with the agricultural possibilities. To that end they adopted the following motto:

"Where educational facilities vie with agricultural realities."

This legend was displayed over the entrance to the Santa Clara county exhibit done in the California poppy. The exhibit itself consisted of a wide range of fresh and dried fruits that are produced in such quantities in the fertile Santa Clara valley, backed by an excellent exhibit of processed canned and preserved goods.

The educational features of the county were emphasized by photographs and statistics in regard to the Leland Stanford university at Palo Alto, the Santa Clara county college at Santa Clara and the Lick Observatory at Mount Hamilton, coupled with numerous county high and grammar schools.

Also a large number of panorama photographs showing the cattle and dairy interests as well as the hay and grain products of the county, which are so closely allied.

The display was made by the San Jose chamber of commerce with the support of the board of supervisors of the county.

A WISE JUDGE.

The funny sayings of a judge who never joked are found in "Arabiniana," a selection of the dicta of Sergeant William Arabin, who sat as a judge at the Old Bailey in London from 1830 to 1839. For instance, his remark to counsel:

"If you can show precisely at what moment the offense was committed and prove that the prisoner was not there when he did it he could not possibly have done it." And he sagely added as an afterthought, "We cannot divest ourselves of common sense in a court of justice."

Another axiom he delivered himself of has been fathered on many other occupants of the bench:

"If ever there was a case of clearer evidence than this case, this case is that case."

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WANTED — TO HEAR OF GOOD farm or unimproved land for sale. Send description and price. NORTH-WESTERN BUSINESS AGENCY, Minneapolis, Minn.

FARMS WANTED—WE HAVE DIRECT buyers. Don't pay commissions. Write, describing property, naming lowest price. We help buyers locate desirable property. Free. AMERICAN INVESTMENT ASSOCIATION, 39 Palace Bldg., Minneapolis, Minn.

WANTED—TO HEAR FROM OWNER of good farm for sale. Send cash price and description. D. F. BUSH, Minneapolis, Minn.

POULTRY.

BARRED ROCK, R. I. RED, BUFF and White Orpington chicks; also Barred Rock cockerels ready for mating. ENOCH CREWE, Santa Cruz, Cal.

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SELLING AGENTS — WHO WILL devote a month to my work. Can make \$1000. Quick cash commissions. Easy to sell. High-class business. Write me. CITY SUBDIVISION CO., Richmond, Calif.

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BELGIAN HARES.

Thoroughbred Belgians, With or without pedigrees. Old Hickory Supply Co., Dept. 23, San Francisco.

OVER THE ELECTRIC WIRE.

Wireless is used to fire fog signal guns along the English coast.

Nashville, Tennessee, will have an electrical show September 21 to 26.

Electric wiring will be taught in the public schools of Louisville.

Electricity is used to dry grain before grinding in certain European mills.

Electric heaters are used to increase the flow of oil wells in the Whittier, Cal., district.

A house wired for electricity is said to be worth 3 per cent more than one not wired.

A Japanese government submarine telegraph cable will be laid between Nagasaki, Japan, and Shanghai, China.

Portable wireless plants, mounted on a suitable wagon, are used by the United States army. They have a range of 800 miles.

A special brand of insulated wire has to be used in the Philippines because the ants and cockroaches feast on the insulation.

An incandescent lamp at Franklin, Pa., has been burning 24 hours a day for 19 years, or more than 160,000 hours.

Within 20 hours after a tornado wrecked the light and power plant at Henderson, Ky., the electric lights were burning and the streetcars running.

What is said to be the largest order for electric flatirons was recently received by the General Electric company, calling for 10,500 irons and filling four large freight cars.

It was said that during 1913 about \$300,000,000 was received for electric lighting in the United States. Estimating the population at 100,000,000, this means that each person, regardless

WANTED

PARTNER WANTED — \$1000 TO \$2000. Buy half-interest 30 acres alfalfa; 4 mares, tools, 100 turkeys, hens. Raise 1000 to 1200 turkeys; lots of range. Farm 100 acres. Give ¼. Grain rent. Box 293, Corning, Cal.

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NURSERIES.

"BURBANK SPINELESS CACTUS" From the home of the originator. We are offering for fall and spring deliveries the improved forage and fruiting varieties of Burbank's Cactus, which we guarantee true to name. Send for catalog and price list with special offers for orders placed this fall. Santa Rosa Spineless Cactus Farms, or Jesse I. Jewell, Manager, Santa Rosa, Sonoma Co., Cal.

MISCELLANEOUS.

MONEY - SAVING, TIME - SAVING, labor-saving. Home necessities for the busy housewife. Bargains! Send for free illustrated catalogue. KIMO SPECIALTIES, Dept. A, Box 392, Vallejo, Calif.

BIG MONEY, in Motion Picture Stories. Learn to write Photo-plays and earn \$50 to \$150 each. Write E. H. Deslms & Co., San Jose, Cal.

"SMITHS PAY THE FREIGHT." To reduce the high cost of living, send for our Wholesale to Consumer catalogue. SMITHS' CASH STORE, 198-F Clay St., San Francisco.

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MUCH USEFUL INFORMATION Can Be Had by Writing to Advertisers in this issue for catalogues, pamphlets and literature which will be mailed without cost.

FOR SALE — KING OF THE WOODS drag saw, absolutely new. Best power saw on the market. Address Box 15, California Farmer.

THE DAVIS ENTERPRISE.

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CALIFORNIA SWINE BREEDERS ASSN.

It is the duty of each and every hogbreeder to lend his support to the association that is devoting its energies to this business. The membership fee is only \$1.00 per year. Correspondence should be addressed to J. I. Thompson, Secretary-Treasurer, Davis, Calif.

of age, pays \$3 per year for electric light. This is equal to about one cent per person per day, or, in other words, two lamp-hours per day per person.

Large pumping plants operated by electrical energy have been installed at Utah lake to lift water from the lake and thus maintain the normal flow of the Jordan river during the summer months when the water is so low that the crops suffer at the most critical period. In the Cache Valley electric pumps are also used to lift the water from the river to the bench lands, thereby bringing thousands of acres of land under cultivation.

While the limit of commercial overhead talking had increased from strictly local to over 1000 miles as early as 1893, it was not until 1905 that conversation could be had over long-distance circuits of which as much as 20 miles was in underground cables. By 1906 underground talking distance had increased to 90 miles. By 1912 it was possible to talk underground from New York to Washington. Underground conversation is now possible between Boston and Washington, four times the length of the longest European underground line. Telephone communication is established between New York and Denver; is potentially possible between all points in the United States, and by 1915 will be an accomplished fact between New York and San Francisco.

Getting There by Degrees.

Dox—How are you making out on your resolution to economize?

Dix—Fine! I got my running expenses slowed down to a walk—Boston Transcript.

DON'T FORGET.

WHEN canning tomatoes for winter, save out a panful, rub them through the colander, adding a little onion if liked, then re-heat and can. Tomato soup may be quickly made in winter by opening one of these cans and thinning and seasoning the contents to taste.

In this, the day of the automobile, it is well to know that when washing automobile veils they should be pinned to a square of cloth to dry. They will then dry smoothly and require no pressing, thus prolonging the life and usefulness of this much-needed article.

Try setting the lamps in the kitchen cupboard during the day and see how much longer they will keep clean.

Cloths for cleaning silver or windows, for wrapping bread, cleaning woodwork or handling hot pans should be provided in abundance for the modern kitchen. The cloths of each kind should be rolled together and marked to indicate their use, and they will always be ready when needed.

Use a fork for mixing baking-powder biscuit and pie crust, and they will be much lighter.

If clothes must be ironed in a hurry, sprinkle them with hot water, roll up tightly for a few moments, then shake out and iron with a hot iron.

When beating the white of an egg, add a small quantity of cream of tartar when the egg is about half beaten. This keeps the egg from falling before being used.

Joe—How are you, old man?

Arthur—Got a beastly cold, y'know.

Joe—Hard luck, by Jove. Been going out in the cold without your monocle?

Arthur—No. Called on Henry, at his house, and that wretched dog of his persisted in wagging his tail and creating a draft.



"Nature's Greatest Beautifier."

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Wafers

A combination of harmless ingredients that assure you of a clean, clear and beautiful complexion. Prepared in wafer form. One box contains a sufficient quantity for a complete treatment. Don't accept substitutes. There is no "just as good." Price \$1.50. At your druggist or write direct. Free booklet on request. **JOSEPH REIGIN, P. O. Box 287, San Francisco.**

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Guaranteed full weight and absolutely pure.

Coffee mailed day its roasted.

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WILSON, 970 Market St., S. F. WHOLESALE AND RETAILERS.

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THE KNABE AMPICO PLAYER PIANO

unquestionably is the best of the world famed player pianos. The player combines the utmost ease of pedaling and every refinement of expression devices, including the marvelous "Flexotone."

If you desire to possess the most perfect player piano yet produced—if you wish to regard only quality, then we present to you the Knabe Ampico Piano.

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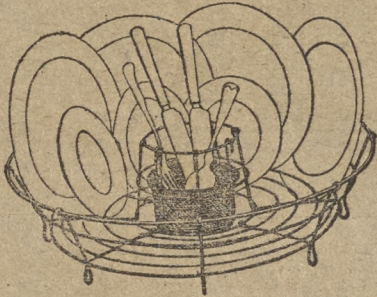
THE HOUSEHOLD

ABOUT DISHWASHING.

Some Light Upon a Duty With Which All Housekeepers Have to Deal.

By Hilda Richmond in Northwest Farmstead.

AT a little social gathering, in a hospitable farmhouse, the talk ran to dishwashing as the ladies cleared up the remains of the "big" dinner and washed the dishes afterwards while the men chatted in the sitting-room. It was very interesting to listen to these different opinions as to how this important work should be done, and the little conference resulted in as much good, as a woman's part of the farmers' institute, except that it was a small audience instead of a large one on the subject, no doubt, but most of the younger women frankly said they received as much benefit from



A DISH HOLDER FOR SCALDING DISHES AFTER WASHING.

the discussion as from the social time.

One young woman said rather boastfully that her little girls of 6 and 8 washed all the dishes, leaving her free to do many other tasks. As she had quite a family several motherly women felt sorry for the tofs who were forced to lose so much play time. Another woman said she would not trust her little girls to wash dishes for several reasons. They could not handle the heavy pots and pans, they could not wash them clean and she was afraid to have them scald the dishes when washed. She found lighter tasks for the children and later would teach them this important task. Another said she had hated dishwashing so much in her girlhood that she never intended to ask her daughters to do that drudgery, while another was sure the discipline that comes from doing a hated task was exactly what her girls needed. Some of the ladies owned to "hating" dishwashing and slightly, while others contended that it was a delightful job when rightfully managed.

Most children hate dishwashing, but all of them should learn how to do it when old enough and strong enough. Three or four lessons will teach a bright girl or boy of 12 all that is necessary to be known about the work and then they can be trusted to do it alone. For my part I like the work very much when I have the proper "tools" to work with. I use a big pan of soap suds and then scald the dishes when washed. That is all there is to it. I change the water frequently when it gets greasy and I never begin until every dish, pot, kettle and pan has been scraped and made ready. There would be fewer sore hands in winter if women washed dishes when they washed dishes and did not mix into the work a dozen other jobs. When the hands are wet finish the work at once and then dry them thoroughly.

Once I saw a woman who prided herself on being a good housekeeper wash dishes after 35 people had eaten dinner. She started with a pan of clean soap suds hot from the stove and she washed every dish and cooking utensils in that identical water with out ever reheating it even when it cooled. I wiped them, but it reminded me more of polishing shoes than anything else. And when I counted up my blessings that day one of them was that I did not have to board in that house. There was plenty of rain water in the kitchen and the tea-kettle sang a merry tune on the stove, but she washed out of that filthy water and turned them upside down on a pan for me to wipe, so there was nothing to do but get them out of sight as quickly as possible. Then I knew why that woman had more time for fancywork than some of the rest of us.

Since dishwashing must be done three times each day, every day in the year, in most homes, it is well to learn to like it, and the only way I ever learned to like it was in having clean water, clean towels and plenty of them, plenty of scalding water and a decent dish rag. There must be something wrong with any woman who does not enjoy a clean task like this, in my opinion. Of course it grows monotonous—all work does at times—but after all the health of the family depends largely upon clean

cooking, and clean cooking demands clean dishes, so I am thankful for health and strength to do the work, and if I must slight something it is never the dishwashing.

IN SEPTEMBER SWAT THE FLY.

Two Remedies Easily Prepared That Will Exterminate Flies Quickly.

By M. E. Aldridge.

THE slogan, "Swat the Fly," urged in the month of May should be as universal and as much of a household word in September as in May.

Despite the most energetic efforts exercised in the spring months by a great and, happily, increasing number of people to exterminate the pest, still there are a vast majority of the people who are indolently indifferent to, or negligent of, the breeding places of the fly, without disposition to swat him at that all-important season. Then when September comes succeeding a period of somnolence through the hot summer weeks, awakening as it were to spring-like condition, all insects and vegetation seem to spring anew either because of the brief rejuvenancy of nature or because the farm kitchen is now redolent with inviting and savory odors of vegetables and fruit during the process of cooking and being "put up" for winter use. At least there are hordes of flies that come apparently from nowhere sorely vexing the particular housewife.

After using countless remedies and means to destroy flies which after all have ever failed to prove distressingly ineffectual and disappointing, I have learned of two methods that actually and fully kill them, rapidly and by the hundreds within a short time.

Remedy No. 1 is entirely harmless for everything except flies. Its ingredients are usually to be found in any farmhouse. To one-half teacup of buttermilk add one beaten egg and enough finely ground black pepper to make a thin batter, put the mixture in saucers or any shallow pan or dish, place outside the screens before the pantry and kitchen windows, in the house or wherever the flies gather the thickest. Not many will sip it the first day, but those that do will soon be on their backs, whirling around and around until death puts an end to their foul activity. After 24 hours it will become necessary to sweep often to avoid stepping on them as well as remove them from sight. The mixture placed before an enticing window or beneath where they roost at night on the ceiling of the porch will disclose in the morning an empty roosting place and floor blackened with dead flies. When the mixture dries, add more buttermilk (clabbered milk will do, but is not as effective as buttermilk). It will be effective a considerable length of time if kept renewed with milk. When, if other flies come in from some ill-kept source, a new supply may be necessary.

Remedy No. 2 is even more killing, but is of a poisonous nature should by any chance a child obtain a dose of it. To one-half a pint of milk add one-half a pint of water and two tablespoons of formalin (formalin is procurable at any drugstore, is inexpensive and a household necessity when anyone becomes used to its value as a disinfectant), place in saucers in the middle of which put a piece of bread as an extra inducement to attract the flies more fully. They die so quickly from sipping the mixture that where a large number invade the premises the housewife will be compelled to sweep them away three or four times while cooking a meal. All food should be kept carefully covered during the massacre.

QUINCE MARMALADE.

Wipe quinces, cut in quarters, pare and remove seeds, then cut in small pieces. Pare and core one-fourth as many apples as quinces—cut them in fourths. Put both in a preserving kettle and add enough water to nearly cover. Cook slowly until soft. Rub through a sieve (a hair sieve is best) and add 3-4 cup of sugar to each cup of pulp. Cook slowly 20 minutes or until good and thick. Stir frequently to prevent burning. When done, cover with clean cloth and set away to get cold. Pack in sterile jars, adjust rubbers, place tops on loosely. Stand jars on a rock in kettle in which there is about six inches of water. Cover kettle and bring to boil. After five minutes, screw tops tight and boil ten minutes. Cool, label and put away.

A Matter of Policy.

"Honesty is the best policy," mused the business man.

"I've never heard of that company," began the insurance man, who had been sparring for an opening. "but, now, I've got a policy here"—But his victim had fled.—Buffalo Express.

HOW TO SWEEP.

There is a Right and a Wrong Way to Do Most Things and Sweeping Is no Exception.

By Olive Richey in Michigan Farmer
HOW many women really know how to handle a broom? It is safe to say that a number of women who really know the correct art of sweeping is very small.

Before beginning the broom should be dipped into hot soapsuds. Squeeze out the water, leaving the broom damp, but not dripping. This practice not only makes it easier to sweep but toughens the straw of the broom and makes it soft so there is little danger of cutting the carpet. Before beginning work, a pailful of hot soapsuds should be in readiness in which to rinse the broom, when it becomes dusty.

To keep down dust, it is well to soak a newspaper and after squeezing out all the water possible, tear it into small pieces and scatter over the carpet. Or, if preferred, sprinkle the carpet with moist tea leaves, or clean moist sawdust.

Where to Begin—Begin work in a corner and work along the walls, around the room, gradually sweeping all the dirt toward the center, where it should be taken up with dust brush and pan. It is apparent that this method moves the dirt over the smallest possible space, and as a result, there will be less dusting to do. The wear on the carpet will not be nearly so great as it is where the dirt is swept from room to room as is often done.

A skilled sweeper can sweep a room without raising scarcely any dust. The handle of the broom should never come to the perpendicular, but should always be inclined slightly forward. The sweeper stands on the unswept portion of the carpet and reaches back and draws the broom forward. The broom is lifted from the carpet for another stroke before it reaches the perpendicular. That cloud of dust that you noticed coming out of your neighbor's door was caused by the sweeper using the broom with the handle inclined backward. By learning to sweep with the handle of the broom inclined forward, one can do better work, and will raise very little dust.

Care of the Broom—Broom straw is hard and brittle and easily broken. Before using a new broom, it should be soaked in water for half an hour or so, after which it should be hung out in the open air to dry. This will soften the straw so one can sweep without danger of the hard straws cutting the fine threads of the carpet.

When not in use the broom should be hung upside down to prevent the straws from adhering to one another. When hung upside down the broom will retain its shape.

A new broom does good work because it is square and the straws are straight. Hence, in sweeping, it is well to sweep with one side a while and then with the other. If there is any tendency of the broom to become one-sided, it is a certain indication that one side of the broom has been used more than the other. By keeping the broom square as good work can be done with an old broom as can be done with a new one.

ASTHMA

Asthma Sufferers Will Be Interested in the Following Unsolicited Testimonial in Regard to the Asthmetal Plate.

C. W. MEEKER
Dealer in Furnaces and Ranges
249 Bushkill St., Easton, Pa.
Easton, Pa., April 23, 1914.

Asthmetal Co., 193 Main St., Buffalo, N. Y.

Gentlemen:—I enclose you post office money order for another Asthmetal Plate. I want this plate for an elderly woman friend of mine. I hope it will do as much good for her as the one I bought on January 22, 1914, for Harry Vogel. It was a god send to him, for he is entirely well, and has not spent a dollar since using your Asthmetal Plate and yet he suffered for twenty years with the dread disease.

Yours truly, C. W. MEEKER.

The Asthmetal Plate is now giving relief to hundreds of men and women who, like Mr. Vogel, have been chronic Asthma sufferers for years. Many of these people have spent hundreds of dollars in their quest for relief and they have been perfectly amazed by the great relief given them through wearing the Asthmetal Plate. We send it enclosed in a sanitary cloth envelope with strings attached. It is to be worn about the neck, plate resting over the bronchial tubes. It weighs less than three ounces. The Asthmetal draws out the asthmatic conditions and it assuredly gives great relief to every sufferer. We will send you the Asthmetal Plate, postage paid, on receipt of \$2. Try it 30 days and if it fails to give relief send it back and we will cheerfully refund your money. Address Asthmetal Co., Dept. A. M., 193 Main Street, Buffalo, N. Y.



A NEW COOK BOOK.

Nearly 400 Contributors Have Combined to Make a Cook Book That Is Unexcelled.

THE "Economy Administration Cook Book" recently published by Conkey and company, Hammond, Indiana, is packed from cover to cover with tested recipes that because of their number and quality can hardly leave anything to be desired by the housewife in the way of directions for cooking.

This book is edited by Susie Root Rhodes, past president of the League of American Pen Women, Etc., and Grace Porter Hopkins, vice president, D. C. Federation of Woman's clubs, etc., and is dedicated to the late Mrs. Woodrow Wilson, wife of the president of the United States.

The history of the "Wilson Family Cook Book," followed by some of its "leaves," make a fitting prelude to the many good things that follow from many of the leading ladies of the United States.

A few of Mrs. Wilson's favorite recipes will be found on this page and will doubtless be appreciated by the numerous housewives who read the Farmer.

SOME WILSON RECIPES.

A Few Selections from the Wilson Family Cook Book as Printed in the Economy Administration Cook Book.

Charlotte Russe.

Put into a kettle one ounce of gelatine, one quart of water, one-half pint of milk, one pound of sugar, yolks of four eggs and four spoons of the sugar. When these ingredients are well mixed pour them upon the yolks and scald them—stirring all the while; then strain it through a sieve and pour it while hot on the four whites, which must first be beaten to a froth. Stir it continuously; when it is cold, add a syllabub prepared as follows: One-half pint of cream, the remainder of the sugar, churn it, then lay it upon a sieve so that all the milk may drain out. Stir constantly until cold.

Sponge Cake.

Three eggs, one and one-half cups white sugar, one cup flour, well beaten together; take two-thirds of a teaspoon of cream of tartar, and one-half teaspoon of soda, dissolved in one-half cup of milk (cold); then add another cup of flour and one teaspoon of essence of lemon.

Frosted Lemon Pie.

Moisten a tablespoon of corn starch with a little cold water and pour on boiling water sufficient to thicken it; while hot put into this a cup of sugar, so as to melt it; add the beaten yolks of two eggs and the grated rind with the juice of a lemon. This will make one large pie. Bake with bottom crust. Beat the whites of the eggs to a froth and add two tablespoons of sugar. When the pie is done spread this frosting over it and return it to the oven.

Lemon Rice Pudding.

Wash four tablespoons of rice and boil until soft; one quart of milk sweetened to taste, butter size of an egg. When nearly cold add the beaten yolks of four eggs and the grated rind of one lemon. To the beaten whites of the eggs add the juice of the lemon and four spoons of powdered sugar. Pour the batter into a pudding dish and spread the whites upon the top and bake until brown. To be eaten cold.

Sweet Cantaloupe Pickle.

Seven-pound melon, nearly ripe but not yellow; lay in weak brine all night, then take lump of alum size of a hickory nut and drop in water, boil fruit half an hour. Add to fruit three pounds of sugar, two ounces of cinnamon, one ounce mace and one and one-half ounces cloves. Boil vinegar, sugar and spice, and pour boiling hot over the fruit. If you want the pickle to keep well put the whole on the fire and scald 20 minutes. It is then fit for the table.

EYESTONE'S SILVER AND GOLD POLISH CLOTH.

For silverware and jewelry. No liquids, paste or polish required. The polish is in the cloth. Does the work alone. Does away with collecting the silver in one place to be cleaned. You take the cloth to the silver. Has no odor, no oil or colored chalk. Will not scratch the most delicate surface. Outlasts \$1.00 worth of paste and does the work like magic. Will polish until worn to threads. Has no equal for polishing mirrors and windows. Cloth 13x19 will be sent prepaid for 25c. Money back if not satisfactory.

California Sales Co., Edenvale, Cal.

THE HOUSEHOLD

HOW TO COOK APPLES.

197 Ways From the Housekeepers' Apple Book.

By C. L. Armstrong.

(Continued)

Panned Baked Apples.

Core and cut apples into eighths. Put a layer in a baking dish, sprinkle with two tablespoons of sugar, add another layer of apples and continue until the dish is full. Add to each quart of apples a half-pint of water; cover the dish and bake in a quick oven until soft. The skin, which is

to make a soft dough. Beat thoroughly, cover and let rise until the mixture has doubled its bulk. Beat thoroughly and again let rise. Spread as thinly as possible in a well-buttered dripping pan, brush over with melted butter. Press sliced apples into the dough in even rows. Sprinkle with one-fourth cup of sugar mixed with one-half teaspoon of cinnamon, then with two tablespoons of well-washed currants. Cover and let rise; bake in a moderate oven for 30 minutes. Cut in squares and serve plain, or with whipped cream.

Dried Apple Fruit Cake.

Boil two cups of dried apples in two

mon sifted together. Bake in one loaf for two hours in a moderate oven.

Dried Apple Cake—II.

Chop fine three cups of dried apples which have been well soaked. Add three cups sugar, one cup of raisins and one cup of currants; cook in very little water until the apples are soft. When cold, add three well-beaten eggs, one-half cup butter, one teaspoon each of cinnamon, cloves and allspice, and three cups of flour sifted with one teaspoon of soda. Stir well and bake in one loaf. Bake for one hour in a moderate oven.

German Apple Cake.

Sift together two cups of flour, half a teaspoonful of salt, and three and one-half level teaspoonfuls of baking powder. Work into the dry ingredients one-fourth of a cup of butter. Beat one egg, add three-fourths of a cup of milk and stir into the first mixture. Spread in a well buttered shallow pan. Have pared and cored four or five apples, press down into the dough; sprinkle the apples with well washed dried currants and the edge of the dough thickly with powdered sugar. Bake until the apples are tender, and serve with cream and sugar or hard sauce.

To Dry Apples.

Select sound fruit that has matured. Pare, core and quarter, and slice lengthwise. String and dry near the fire, or spread on frames covered with muslin or netting, and let dry in the sun. If the winter apples are not keeping well it is a good plan to dry them to prevent waste. Although some have a prejudice against dried apples, they can be made very palatable with a little care.

Dry Apple Roly Poly.

Sift a pint of flour, two tablespoons of baking powder and one-half teaspoon of salt, rub in one tablespoon of shortening. Add two-thirds cup of water, knead quickly and roll out into a very thin sheet. Brush with melted butter. Chop dried apples fine; the apples should have been soaked over night; sprinkle over the dough the apples and four tablespoons of sugar. Roll up and place in a buttered baking pan, brush with water and bake in a moderately hot oven for three-quarters of an hour. After the roll has been baking for half an hour, baste with a tablespoon of sugar dissolved in two tablespoons of water; return to the oven to glaze. Serve hot with cream and sugar.

Baked Apple Dumplings.

Cut rich pie crust into six-inch squares. In the center of each place a small apple, pared and cored. Fill the apples with sugar, cinnamon and a whole clove. Wet the edges of the pastry with white of egg, fold it over the apple, pinch and flute to look well; bake about 40 minutes; toward the last brush the top with white of egg and sprinkle with sugar. Serve with hard sauce.

UNCLE SAM will deliver a box of GEO. HAAS & SONS' CELEBRATED CANDIES to your home by Parcel Post. A beautifully illustrated catalogue will be mailed FREE to any address. Drop a postal today. GEO. HAAS & SONS, 770 Market St., San Francisco.

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Send today for our big book with 70 liberal samples plain and fancy wools, new fall styles all **FREE**. Through our special tailoring system and by selling direct—through no agents, stores or dealers—we are able to give values that absolutely cannot be duplicated.

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THE LATE MRS. WOODROW WILSON, WIFE OF THE PRESIDENT OF THE UNITED STATES.

left on, gives a fine flavor. Serve hot in the dish in which they were baked. This is very nice when served with the meat course at dinner.

Baked Sweet Apples.

Wipe and core eight sweet apples. Put in baking dish and fill cavities with sugar, allowing one-third of a cup. Add two-thirds of a cup of boiling water and cover; bake for three hours in a slow oven, adding more water if necessary.

Apple Sauce Cake—II.

One cup of unsweetened apple sauce, one and one-half cups of sugar, one-half cup of shortening, yolk of one egg, one level teaspoon of cinnamon, one-half teaspoon of cloves, one-half teaspoon of soda, one level teaspoon of baking powder and two cups of flour. Strain apple sauce, add soda, melted shortening and flour sifted with baking powder and spices. Beat all thoroughly and bake in two layers and put together with frosting.

Danish Apple Cake.

Stew two pounds of good cooking apples, using as little water as possible; add cinnamon and sugar to taste. Toss one-fourth of a pound of bread crumbs in melted butter, let them brown lightly. Line the bottom of a well-greased cake tin with a thick layer of crumbs, then a layer of apple sauce, repeating until the pan is full. Bake in a quick oven for one-half hour, and when cold turn from the pan. Serve with whipped cream.

Dutch Apple Cake.

Mix one cup of scalded milk, one-third of a cup of butter, one-third of a cup of sugar and one-half a teaspoon of salt. When lukewarm, add one yeast cake, broken into small pieces, two unbeaten eggs and flour

cups of molasses. Cream one cup of butter with two cups of brown sugar, add four beaten eggs and two cups of sour milk; sift together five cups of flour, two teaspoons of flour, two teaspoons of baking powder, one teaspoon of cinnamon and one-half teaspoon of cloves. Stir into the dry ingredients; add two pounds of raisins and one pound of currants, well flour-ed, and two pounds of English walnut meats broken into small pieces. Bake for three hours in a moderate oven.

Dried Apple Cake—I.

Soak two cups of dried apples over night, drain and chop fine; add one cup of molasses and let simmer for three hours; let cool. Cream one cup of butter and one and one-half cups of brown sugar; add one-half cup of sour milk, three beaten eggs and the apple mixture. Add three and one-half cups of flour, one teaspoon each of soda, cloves, allspice and cinna-

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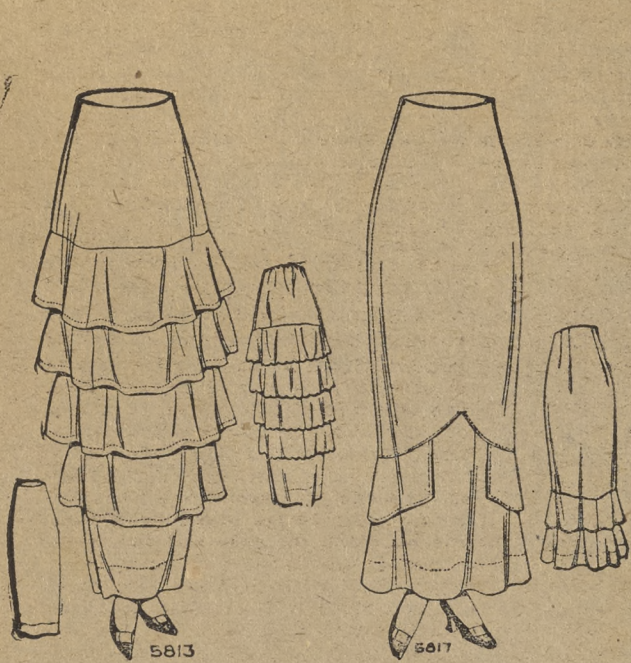
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24 West Santa Clara Street, San Jose, Cal.

Our Weekly Fashion Service for the Home Dressmaker



Newest Blouses Like Old Fashioned Basque

Flounces and Accordion Plaits Are Features of New Skirts.

AN old favorite color combination has returned to us this year. This is navy blue and dark green, and is considered extremely smart. One model seen shows this used in plain navy blue serge combined with serge of the same color crossed by a chenille stripe in bright green. The sleeveless bolero—another very chic idea—is of the plain serge with underblouse of the striped material and sleeves of self-toned chiffon. The long-waisted effect is produced by the wide sash of the plain serge, below which falls a tunic of the same over an underskirt of the stripe, these running horizontally.

And speaking of skirts, the slit has almost entirely disappeared in the new models, sometimes a pleating filling its place, while the width at the bottom is increasing so that she can really walk again, and not hobble along with such ungraceful mincing steps as preceding styles have compelled. The new skirts show many combinations of accortian plaits and flounces—not perhaps a cause for joy to the heart of either the very stout or the very short woman. Indeed a woman with such a figure will be foolish to attempt such a style, no matter how fashionable it may be.

Most of the smartest gowns have the long-waisted effect. From the shoulders to the hips it looks slender, quite unlike the former bagginess which has characterized the blouse of the last few months. Then very suddenly it billows out in flounces or plaits below the line of the girdle or belt.

As for the Basque itself, sometimes it buttons down the front in the center, sometimes down the back; some models have the panel effect, an old-fashioned device which is still further accentuated by a row of buttons following each other along the edge. The newest thing in separate blouses is nothing more nor less than this old-fashioned Basque. Though cut to be worn with detached skirts these retain the long waistline by the simple expedient of a belt of their own material brought to the front and softly tied and appearing to merge into the folds of the Basque. Sometimes these belts or girdles are apparently continuous, the closing being invisible; sometimes the belt is lined with a striped silk in the tones of the blouse material and this lining is turned uppermost on the overlapping end, the same silk facing the high collar and narrow revers.

MILLINERY LESSON.

To Cut Material on the Bias or Cross.

When cutting material on the cross, lay the edge to the selvage so that the twill runs across and along the fold. When cutting off a width you will notice that the width along the selvage is longer than the width through the center, about one-third. Great care should therefore be taken that this is allowed for when measuring the quantity required for any particular part.

Parts of Millinery Cut on the Cross.

Any part requiring stretching. Material for mulling wires on shapes. Velvet binds on hats and bonnets. Velvet folds or rouleaux. Velvet sideband when covering a hat.

Silk for bows. For this purpose the silk has prettier effects when cut on the bias. A velvet ear and end.

Lady's bonnet fronts. Draping of hats, toques or bonnets. Gathered rosettes of silk and ruchings.

Liberty silk hats. Head linings are more economical cut on the bias or cross.

To Join Material on the Cross—The cut edges must run in the same direction when placed side by side; the right of the material facing one another. Stitch and open out by pressure with the hand or iron.

To miter a corner cut the ends on the perfect cross in opposite directions, then place one over the other and stitch as before.

(Our next lesson will treat of velvets and their use in millinery.)

DRESSMAKING LESSON.

Making and Fitting the Skirt.

To those who care for a drop skirt or petticoat, we give the following directions for making: Spread silk or lining out on table, double. Lay middle of front gore on the lengthwise fold of the goods and arrange the others to best advantage to save cloth. If the goods is plain the gores may be turned either up or down; if figured, care must be exercised that the figures run the same way. Cut out, allowing a good seam at the bottom, as we are to sew our ruffle or plaiting to it. Baste all seams and stitch.

From the other end of the goods cut enough strips 1 1/4 inches wide, on a true bias, to make, when sewed together end to end once and a half the width of the skirt around the bottom. Sew the seams on the machine. Turn and baste a hem 1 1/2 inches wide along one side. Gather along the other side about 1-2 inch from the edge. Before gathering, divide into quarters and gather each quarter on separate thread. Divide the bottom of the skirt into four parts, making the two front parts two inches more than the back parts, which will bring the ruffle a little fuller in the back than in the front. Sew the ruffle to the skirt, having the seam come on the wrong side. After the skirt has been tried on, turn the wide part of the seam over the narrow part, turning in, and stitch. This covers all the raw edge where the ruffle is put on. A narrow ruffle may be put on the wide one at the bottom if one wishes. If a plaiting is preferred in place of the ruffle, enough strips would be cut on the straight of the goods, the same width as those for the ruffle, to make three times the width of the skirt.

Sew a straight band of the goods about 1 1/2 inches wide to the top of the skirt, having the band about two inches longer than the waist measure. Pin the middle of the band to the middle of the front of the skirt, having the band on the right side of the skirt. Turn in both ends of the band one inch and pin along the top of the skirt. You will find that the skirt is quite a bit longer than the band. What is left of the skirt may be gathered in, or laid in a large plait, having the edge of the plait come just to the end of the band.

The back seam of the skirt should be left open about 12 inches from the top. This opening should be hemmed on each side with a narrow hem. A silk drop skirt is cut the same as the directions given, except that being much narrower in width, the front gore is cut from the folded material, the others from material folded back on itself.

(Next week's lesson will give directions for the outside skirt).

Among the novelties appearing every few days now one pretty affair is a combination waistcoat and cape. This

little garment is purely a frivolous accessory, but so thoroughly feminine and bewitching that any woman might be pardoned for indulging in it and adding it to her wardrobe.

Made either of taffeta or velvet, if of black a white silk lining is decidedly distinctive and at the same time not too impractical. And as the waistcoat demands, a masculine-looking button fastening, sometimes colored, such as lapis lazuli, jade or coral, might be chosen and the tint be artistically repeated by the hat plumage or the flowers.

Flaring collars retain all their vogue too, but they are constantly undergoing variations. The newest partake of the Elizabethan period, but the pretty flaring collar that is variously known as Normandy and Gladstone continues to be exceedingly smart. The very newest materials for their making are pique for the simpler blouses and suits and faille silk for the handsome ones, and, since both are ribbed, it is after all the one idea developed in two fabrics.

No. 5817—Ladies' Two-Piece Skirt. Made up in gabardine this skirt looks very well worn with separate waists. It is made with a high waistline and with four one-piece circular ruffles, closing at left side. Width at lower edge about 1 1/4 yards. Sizes 21, 22, 24, 26, 28 and 30 inches waist. Size 26 requires 5 1/2 yards of 36-inch material. Price, 15 cents.

No. 5817—Ladies' Two-Piece Skirt with high waistline and lengthened by a one-piece circular flounce with or without two-piece circular ruffle. In regulation or shorter length. Closing on left side. Width around lower edge about 2 yards. Sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist. Price, 15 cents.

No. 5805—Ladies' and Misses' Sleeveless Coat. Loose fitting and single-breasted. Having a one or two-piece circular cape. Length of ladies' coat at center-back from neck to lower edges, 45 inches; length of misses' coat, 43 inches. Sizes 32, 34, 36, 38, 40, 42 and 44 bust, and 14, 16, 18 and 20 years. Size 16 requires 4 1/4 yards 54-inch material. If made with two-piece circular cape, size 16 requires 3 1/4 yards 54 inches wide. Price, 15 cents.

No. 5761—Ladies' Wrap. Having two-piece sleeves in one with body and forming front yoke. Turn-back cuffs or flare cuffs. Two-piece circular ruffles, and plain or ripple collar. Sizes 32, 34, 36, 38, 40, 42, 44 and 46 bust. Size 36 requires 4 yards 36 inches wide. Price, 15 cents.

No. 5821—Ladies' Waist. With underbody having high neck perforated for round neck in either of two depths or for square neck. Long one-piece sleeves perforated for short sleeves, which may be omitted, and with or without cap sleeves. Closing in back. Suitable for flouncings. Sizes 32, 34, 36, 38, 40, 42 and 44 bust. Price, 15 cents.

No. 5809—Ladies' Waist. With lining having long one-piece sleeves perforated for short sleeves, and having high, round or square neck. Outer front, back and mousquetaire sleeve in one. Sizes 32, 34, 36, 38, 40 and 42 bust. Size 36 requires 3 1/4 yards 44-inch material. Price, 15 cents.

No. 5799—Child's Coat and Bonnet. Coat having a circular cape and one-piece sleeves with turn-back cuffs. Bonnet having a lining. Sizes 1/2, 1, 2, 3 and 4 years. Size 2 years requires 2 1/2 yards 27-inch material; bonnet, 3/4 yard 27-inch material and 1/4 yard 27-inch lining. Price, 15 cents.

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PRIZE poultry of all kinds, thoroughbred dogs, cats and household pets, numbering into the thousands in each division, all housed under one great roof and all representing the best of their kinds from all parts of the state will be exhibited at the 17th annual poultry, dog and pet stock show to be held in this city on October 7, 8, 9 and 10 under the joint auspices of the Santa Clara Valley Poultry association, the San Jose Kennel club, the San Jose Cat club and the Santa Clara county Pet Stock association.

Besides the usual ribbon awards in each class, 57 cups, medals and special prizes have been set up in the poultry division, 93 in the dog department and 32 in the pet stock section, all donated by local or outside fanciers, supply houses, business men or citizens.

Opening the show season in California, the San Jose show is the only one of its kind in the world, combining as it does the four distinct departments in one great exhibition. Arrangements are being made for a special exhibit of poultry-raising methods, with modern appliances and practical demonstrations, from the state farm school at Davis. Another attractive feature expected for the show will be an exhibit from the state game farm conducted by the California state fish and game commission, in which many specimens of wild fowl will be shown, including several kinds of pheasants, wild duck, quail and other game birds.

The poultry section of the show will be judged by W. S. Russell of Ottumwa, Ia., recognized as one of America's highest authorities and the division will include exhibits in all the recognized breeds of poultry, besides bantams, turkeys, ducks, geese, guinea fowl and pigeons. W. V. N. Bay of San Francisco, secretary of the National Dog Breeders' association, and V. J. Ruh of San Jose will be the judges in the dog department of the show and the entries in this section will include all recognized breeds.

The pet stock section will be judged by L. Regner of San Mateo and will include cats, rabbits, hares, guinea pigs, parrots, pheasants, cage birds and household pets of every description, and a special department for children. Special attention is devoted to the cat section, which will be judged by Mrs. E. T. Kidwell of San Francisco, president of the Pacific Cat club of that city.

BREEDING FOR EGGS.

By Le Roy V. Brandt.

(Continued)

Size of Yards—Another point in which there lies a great deal of matter for thought is the yarding of the hens. There is no way in which a colony of one thousand hens can be made to lay as many eggs as a thousand hens divided into yards of 50 or a 100. The hens that are in the small yards invariably do the best, and the smaller the yards the better the flock will do. Of course, there is a limit to the smallness of the yards paying. It would be foolish to put the hens in yards of ten each, although they would lay a few more eggs if they were so placed. I have found that the hens will pay the best, considering the extra labor that will be incurred and all that sort of thing, if they are in yards holding a hundred each. That is the way I have practically all my own. There is one yard that has a couple of hundred in it, and they do not do as well as the others.

"The hens that are taken for the breeders should, as a rule be put in smaller lots than the others. This is done mainly for the reason that

closer watch can be kept on them than if they are a hundred in a bunch. I have 25 or 50 in a pen, and I give that number the same amount of room that I would twice that number of the ordinary hens. The breeders should have all the exercise they can get, if we are to have strong chicks. I have 15 hens to each cock."

Type of Houses—The houses in which the hens on the Helman ranch are placed are of the open front type. They are of various sizes, to suit the different needs, but the principle in each case is the same. There is one house in which there are the two hundred hens, and which was built to hold five hundred, but of this house the gentleman said that he did not like it, and that he never has it full.

The houses are built with the roof on the back a great deal longer than the roof on the front. At the back the hens have their roosting perches, and in the front there is the scratch shed. The sleeping quarters have a floor, placed a little way above the ground, and they are also equipped with doors which will let down so that they may be completely sheltered if a severe storm comes up. The scratch shed is supplied with sand for a dust bath, and the nest boxes are also placed therein. There are hoppers in the scratch sheds also, and grit and shell boxes. Mr. Helman stated that he figured ten feet of shed and roost-room to each hen.

The mash, which is fed, is always given dry. In regard to the matter of the wet and dry mashes Mr. Helman expressed himself as follows:

Feeding Dry Mash—"I always feed the hens dry mash for the reason that I find that I get as good results in the long run, and the labor involved is a great deal less than if I have to feed the mash wet. I have concluded that I do not care to wear myself out carrying water about the place. Also the hens are a great deal better so far as the health is concerned, and really the egg proposition is different from what it is generally represented to be with the wet and dry mashes. To explain:

"I have found that the hens will lay as many eggs if fed dry mashes as if fed wet. At least, I should say that the strain of hens that I have bred up will lay as many eggs if fed with dry mash as any others will if fed on wet. I have said before that they would lay a few more eggs fed on wet mashes, but that is by the by. I was about to say that the hens fed on dry mashes will lay eggs more regularly than those which receive the wet feed. And the result of this is that there are a few more eggs in the fall, and not quite so many in the spring. What is the meaning of this? It simply means that there will be a little more money received for the eggs, if there are practically the same number gotten in the course of the year, in the one case than in the other. This will be apparent when we consider that eggs are higher in the fall than they are in the spring.

And for this one reason, if for no other, it will pay to feed dry instead of wet mashes. Added to that fact we consider that, as I have said, the hens are in better health, and that every hen that we lose is a dollar gone. It is apparent to me, at least, that the dry mash system is the only one."

The feed which the gentleman gives the flock is very simple. As we have said before, there is no forcing of the birds. For a grain ration wheat is fed. In the past the birds received some corn, but Mr. Helman stated that he had found that they would lay well without that grain, and since it is very expensive as a rule he has desisted from feeding it. The wheat is fed in hoppers which are put into the sheds, and the fowls are permitted to have all they will eat of it all the time. Some of the poultrymen who feed with hoppers shut the grain-hoppers part of the day, but this is generally done when the ration given therein is partly rich grains. Since these hens have nothing of that kind they are permitted to have all the grain they desire.

For a mash ration the hens receive all the year round, equal weights of bran, middlings, ground corn, and 25 pounds of alfalfa hay, chopped fine. Added to this there is a very little beef scraps and a very little charcoal. For the twelve hundred hens the amount of scraps would be, for one day, about ten pounds, while the charcoal is given as the mixer deems necessary. The charcoal is given, in any case, as a conditioner, and since the hens are in good health almost all the time it is not thought that they will require a great deal of that sort of thing.

Pertinent Points About Feed—The writer would like to point out a few things about this ration. In the first place, all the fattening food is given in the mash. A hen will literally become snake poor if fed on wheat alone. Although the ground corn is given in the stead of whole corn, which is conceded to be more wholesome than the milled product, the feeding of that sort of stuff dry will overbalance the harm that is done by having it cracked. If corn is fed cracked in the wet mash the harm is not so much in having it ground as it is in wetting it. Therefore it will be well to give the hens the corn broken for the reason that it will be a great deal easier to digest and it is not forcing the hens to give it to them so, but is simply expediting their work. The fact that bran and middlings are fed instead of shorts, is also worthy of note. Middlings is richer than shorts, and contains an element of gluten which the latter does not have. Bran contains more available protein than shorts. The combination of the two is, on the whole, much better than a feed of straight shorts. The lack of animal feed shows that Mr. Helman is true to his theory that the hens should not be forced.

For the reason that the chopped alfalfa will clog the hoppers the dry

mash is given in troughs as the wet mash usually is.

In the matter of green feed Mr. Helman gives the birds all of that sort of thing that they will eat, or at least all that he has to give. He stated to the writer that he had never had as much green feed as he would like to have had. He also remarked that green feed in abundance is one of the prime factors in the success of the poultryman. He himself prefers to feed kale to any of the other green feeds, but as to that point he stated than any of the plants which are usually cultivated are good for that purpose.

As to the care of the baby chicks they are treated in the same common sense way that has made the hens such prolific layers. They receive a diet of cracked wheat from the time that they are two days old till they are two weeks of age, and from that time they are given a little cracked corn and a little beef scraps. They are then given mash feed the same thing that is given to the hens, and in that way they are fed to the time that they are disposed of.

At the age of three years the hens are sold. With the eminently sensible treatment which the hens receive they will lay well in their third year, and there is a gain of labor there, as the stock has to be renewed only two-thirds as often as it otherwise would.

If a box of broken charcoal is kept before the fowls they will pick at it a great deal, and it is an excellent thing to keep them in good condition.

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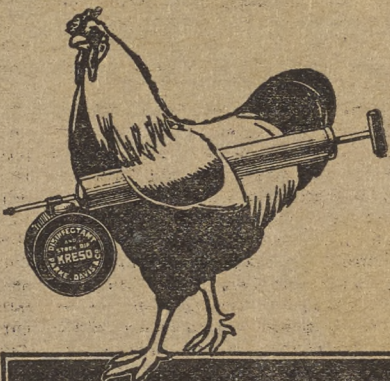
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CARE AND MATURITY OF FOWLS FOR WINTER EGG PRODUCTION

Hatching Time Should Be Carefully Judged to Insure Laying at Right Period.

Natural Development, Rather Than Forced Methods, Should Be the Rule.

By J. Harry Wolsieffer,
Poultry Judge, Lecturer and Author.

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Poultryraisers going in for profit from eggs should consider carefully the time when prices can be secured, and this is naturally the winter months. To get a good supply at that time it is necessary to time the hatch, which should be early enough to permit the hens to develop normally to the egg-laying period. Forced methods are to be discouraged. The housing and food are important factors, too. The following article is instructive on this subject.

THE season is here when the majority of poultrykeepers will expect their fowls to commence to shell out hen fruit. Eggs are one of the most valuable of foods, being second only to milk. They will always command a good price, due first to the demand, and, second, to an almost always shortage of a fresh supply from the henneries. Yet winter eggs are not hard to obtain if all the essentials are complied with.

There is, as in all lines, only one road to success—the right method; and while those who have been making a success of the poultry business in the past may use what to the beginner may look like different systems, anyone who has had poultry experience realizes that the main essentials have always been lived up to. While many writers for the poultry press have advocated late-hatched chicks, it may be put down as a hard and fast rule that June and July hatched chicks are not winter layers, and unless under the care of the experienced poultrykeeper. May-hatched chicks as a flock do not become producers of winter eggs, especially the heavier breeds, such as Plymouth Rocks, Wyandottes, Rhode Island Reds and Orpingtons.

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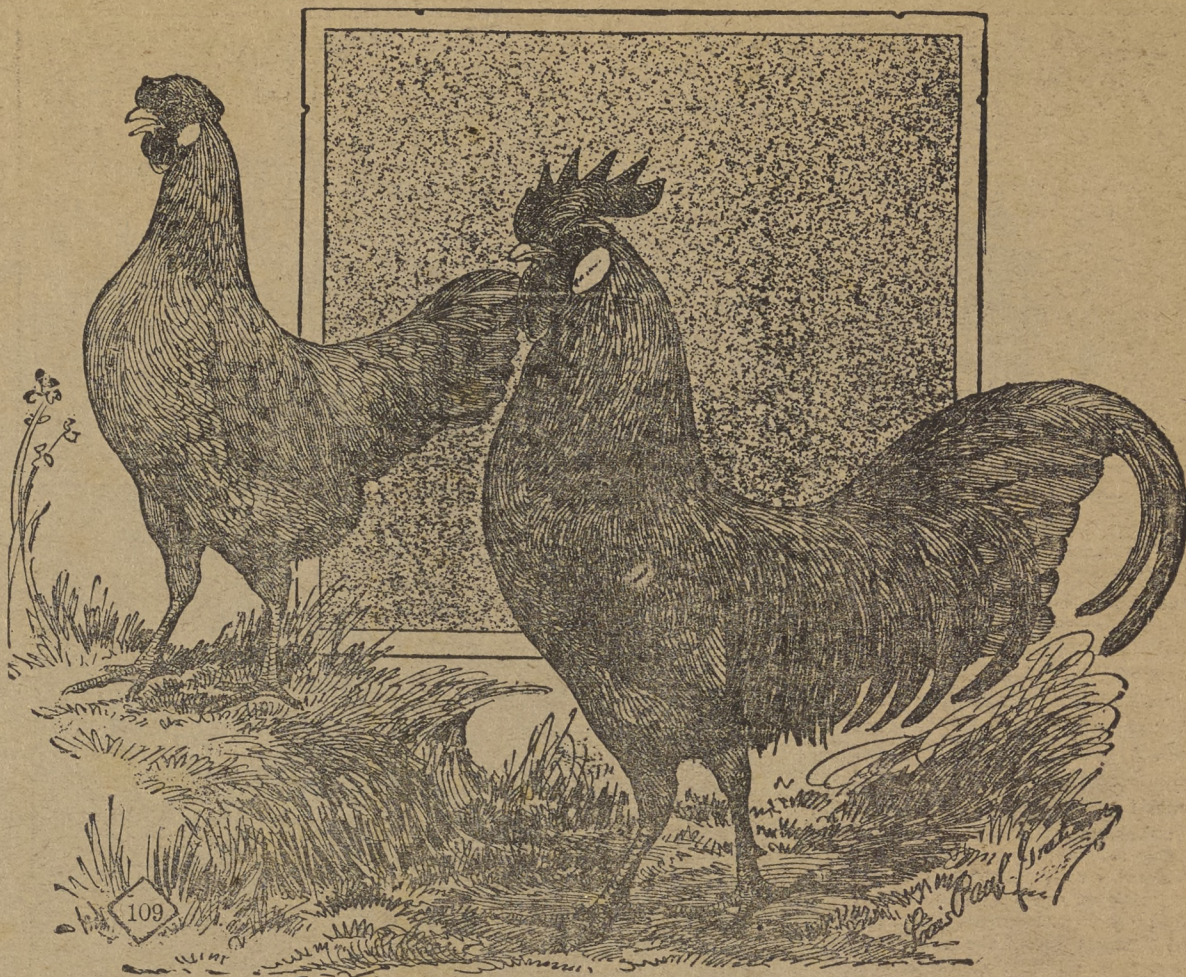
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Single-Comb Buff Leghorns.

Leghorns have a well-earned reputation as "egg machines," and as such are always in demand by profit-loving poultryraisers. They are also popular with fanciers who prefer the S. C. Buff variety, which possesses all the heavy-laying qualities of the Whites. Their eggs are large and white and prove very fertile, hatching well. The chicks are comparatively easy to rear. They make excellent squab broilers at

Leghorns, if properly grown and hatched during the early part of May, will lay in from five to six months from the shell, but the average beginner in poultry rearing does not and cannot be expected to hatch and rear chicks in the same skillful manner that the poultrykeeper of years' experience can, and the maturing of the beginner's flock is in the majority of cases later than that of the older poultryraiser. So, without age, the poultrykeeper can do little, even in the way of care and feed. Forced methods yield but temporary results, and are, as a rule, harmful in the long run.

Hatch at Proper Time.

The successful way is to hatch at the right time and then have the flock grow gradually each day, and come into laying maturity at the proper age of the breed, without undue forcing. The care of the growing pullets should now consist of free range when possible, if yarded; the culling close of all pullets that are not up in size and vigor, the reducing in size of the flocks to retard the one factor that retards proper development, that of overcrowding the poultry quarters—the separating of the males from the growing flock, and the feeding of plenty of green food in some form.

In this age of big things the poultryraisers have striven mainly for numbers rather than quality, at the expense of their profits at the end of the year. It has often been advocated by experienced writers, but little heeded in the past, that 50 good fowls of quality were worth twice that number of the ordinary kind, and until the poultrykeeper gets this thoroughly imbedded in his mind there will always be a leak in his operations.

Essentials for Good Laying.

The essentials for the winter's egg yield are, first, stock from known producers, strong and vigorous, kept in clean quarters that are free from lice and vermin, plenty of fresh water and outdoor shade, either natural or artificial. The consumption of food by the growing pullets should increase each week, and unless the quarters are comfortable they will fall off in the feed and will not develop, and every check received by the flock due to any neglect will retard maturity. In spite of the high price of feed, only the best should be provided for the flock, if best returns are to be obtained. It is false economy to purchase mill scrapings and screenings at a little lower cost than the first-grade feeds, for the feeding value is not obtained in the cheap grade of feeds, and to obtain the same results almost

eight weeks, and mature rapidly after that age.

Pullets develop into good layers often at four months of age.

Breeding them to good shape and buff color is a difficult task, but when attained, their popularity is most lasting. A flock of rich, golden Buff Leghorns cannot be excelled for beauty.

The S. C. Buff Leghorns originated in England, being the result of a cross

between White Leghorns and Buff Cochins, although Mrs. Lister Kay, one of the most active breeders of the variety, claims that certain yellow fowls from Denmark are also responsible for the breed. They were introduced into the United States early in the 90's, since when they have enjoyed a varying popularity, but have always been admired for their great beauty as well as their egg-laying qualities.

double the amount must be consumed by the growing flock, which they cannot do in a given time to produce the best results.

A good ration, and one which will not only develop but also manufacture eggs, is composed of 200 parts bran, 100 middlings, 100 ground oats, 100 mealed alfalfa. To this 15 per cent of high-grade beef scraps is added. If Leghorns are raised, 18 to 20 pounds can be added, but never more. One hundred pounds of cornmeal is added to a Leghorn ration, but for the heavier breeds this is omitted, and the only corn they receive is in the grains which are fed morning and night, consisting of 200 pounds of wheat, 100 of oats, 100 of cracked corn and a few pounds of millet.

From four to six quarts of grain are fed to each 100 fowls, morning and night. The dry mash is before them in hoppers at all times. This, coupled with green food in some form, will bring the pullets to laying maturity and enable them to produce a larger number of eggs. Do not make the common mistake of changing the ration from week to week, in hope of starting the flock laying. The majority of cases the changing of feeds will be more harmful than helpful. Pampering the flock is not good practice. If they do not lay under good feeding and care, it is because at some time during the growing period they have received a setback and a longer time is required before the laying period will arrive.

Proper Poultry-House Necessary.

Buildings play an important part in successful egg production, and there have been many failures to the otherwise good management in having houses poorly constructed and ventilated. An improperly ventilated house causes colds, and later on weak, sickly stock prevents winter eggs, and in the end means complete failure. The poultry-house problem has not yet been fully solved, though now and then we read of someone who thinks the problem has been solved. There is no question but that rapid strides have been made in the past few years in poultry-house construction, and there is hardly a breeder who would not build differently today than he did five years ago. That the curtain-front house is a step in the right direction no one will dispute, and the newer plants that have adopted this plan have had very good results. Pure air is as necessary to good health and egg production as pure water and feed. It requires a perfect system of venti-

lation and personal attention to keep the air in the poultry-house as fresh as it is on the outside. It will, therefore, often be found advisable to have quite a few windows covered with muslin to regulate the air in different kinds of weather. Extremes in temperature can be considerably modified by careful ventilation. It is important that the poultry-house be kept cool in summer and dry and comfortable in winter.

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